2013 SUPPLEMENT TO 2011/12 CATALOGUE

LGC Standards

Excellence through measurement

Analytical reference materials, standards and high purity solvents

LGC Quality - ISO Guide 34 • GMP/GLP • ISO 9001 • ISO/IEC 17025 • ISO/IEC 17043

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Analytical reference materials, standards and high purity solvents Catalogue Supplement 2013

Environmental matrix reference materials

Waters

Drinking water

Code	Product	Unit
NWBURTAP-05	Drinking water - Major ions and nutrients Lot 1012 Certified values	500 mL

Alkalinity, Total (as $CaCO_3$)	81.4 mg/L	Magnesium	8.92 mg/L
Boron	0.0027 mg/L	Nitrate + Nitrite (as N)	0.44 mg/L
Calcium	36.1 mg/L	pH	8.05
Chloride	1.6 mg/L	Potassium	1.76 mg/L
Conductivity (25°C)	348 µS/cm	Silica (as Si)	0.30 mg/L
Dissolved Inorganic Carbon (DIC)	19.2 mg/L	Sodium	18.9 mg/L
Dissolved Organic Carbon (DOC)	1.52 mg/L	Sulfate (as SO_4)	42.0 mg/L
Fluoride	0.56 mg/L	Total Nitrogen	0.56 mg/L
Hardness, Total (as $CaCO_3$)	128 mg/L		

Indicative value for Total Kjeldahl Nitrogen (TKN)

Fresh water

NRCORMS-5	River water - Mercury Packaged in 50 mL glass ampoules stabilized with 0.5% v/v BrCl Certified mass fraction of mercury... 26.2 ± 1.3 pg/g	3 x 50 mL
NWKEJIM-02	Soft lake water - Major ions and nutrients Collected from Kejimkujik Lake, Nova Scotia, Canada Lot 0411 Certified values	500 mL

Alkalinity, Gran (as $CaCO_3$)	0.293 mg/L	Magnesium	0.465 mg/L
Aluminium	0.161 mg/L	pH	5.29
Calcium	0.847 mg/L	Potassium	0.225 mg/L
Chloride	5.81 mg/L	Silica (as Si)	0.797 mg/L
Colour (Hazen units)	71.2	Sodium	3.78 mg/L
Conductivity (25°C)	32.3 µS/cm	Sulfate (as SO_4)	2.44 mg/L
Dissolved Organic Carbon (DOC)	7.25 mg/L	Total Nitrogen	0.214 mg/L

Indicative values for Dissolved Inorganic Carbon (DIC), Fluoride, Total Hardness (as $CaCO_3$), Total Kjeldahl Nitrogen (TKN) (as N), Turbidity (JTU/NTU)

NWPERADE-09	River Water - Major ions and nutrients Collected from the St. Anne River at St-Anne-de-la-Pérade in Québec, Canada Lot 0412 Certified values	500 mL

Alkalinity, Gran (as $CaCO_3$)	9.75 mg/L	Nitrate + Nitrite (as N)	0.352 mg/L
Aluminium	0.076 mg/L	pH	7.05
Calcium	4.19 mg/L	Potassium	0.505 mg/L
Chloride	1.89 mg/L	Silica (as Si)	3.11 mg/L
Conductivity (25 °C)	40.2 µS/cm	Sodium	2.14 mg/L
Dissolved Organic Carbon (DOC)	3.70 mg/L	Sulfate (as SO_4)	3.85 mg/L
Magnesium	0.813 mg/L	Total Nitrogen	0.456 mg/L

Indicative values for Colour (Hazen units), Dissolved Inorganic Carbon (DIC) and Fluoride

Spiked/fortified water

Waters

Code	Product	Unit
NWTM-25.4	Water - Trace elements Lot 0412 Certified values Aluminum (Al) 30.3 µg/L Antimony (Sb) 23.7 µg/L Arsenic (As) 27.1 µg/L Barium (Ba) 27.0 µg/L Beryllium (Be) 25.9 µg/L Boron (B) 40.6 µg/L Cadmium (Cd) 23.6 µg/L Chromium (Cr) 24.0 µg/L Cobalt (Co) 27.5 µg/L Copper (Cu) 26.6 µg/L Iron (Fe) 31.1 µg/L Lead (Pb) 27.1 µg/L Lithium (Li) 23.9 µg/L Manganese (Mg) 25.2 µg/L Molybdenum (Mo) 27.5 µg/L Nickel (Ni) 16.2 µg/L Selenium (Se) 28.9 µg/L Strontium (Sr) 73.5 µg/L Thallium (Tl) 30.5 µg/L Tin (Sn) 23.8 µg/L Titanium (Ti) 25.4 µg/L Uranium (U) 27.3 µg/L Vanadium (V) 27.5 µg/L Zinc (Zn) 44.4 µg/L Indicative value for Rubidium (Rb) and Silver (Ag)	500 mL

Miscellaneous

NIM-GBW(E)080273	COD (Cr) COD_{Cr} content 100 µg/mL	20 mL
NIM-GBW(E)080274	COD (Mn) COD_{Mn} content 238 mg/L	20 mL
NWHAMIL-20.2	Harbour water - Major ions and nutrients Lot 1012 Certified values Alkalinity, Total (as $CaCO_3$) 110 mg/L Calcium 46.1 mg/L Chloride 72.1 mg/L Colour (Hazen units) 5.05 Conductivity (25°C) 550 µS/cm Dissolved Inorganic Carbon (DIC) 25.9 mg/L Dissolved Organic Carbon (DOC) 3.04 mg/L Fluoride 0.29 mg/L Hardness, Total (as $CaCO_3$) 167 mg/L Magnesium 12.6 mg/L Nitrate + Nitrite (as N) 1.99 mg/L pH 8.13 Potassium 3.98 mg/L Silica (as Si) 0.876 mg/L Sodium 42.6 mg/L Sulfate (as SO_4) 43.7 mg/L Total Nitrogen 2.23 mg/L Indicative value for Boron (B) and Total Kjeldahl Nitrogen (TKN)	500 mL
NCS ZC80301D	Chemical oxygen demand (COD) - low level Certified value COD 1164 mg/L	20 mL
NCS ZC80303D	Chemical oxygen demand (COD) - high level Certified value COD 5027 mg/L	20 mL
RTC-QC1001-2ML	Nutrients - Constant value Lot 018476 (values of analytes vary from lot to lot) Kjeldahl nitrogen, total(TKN) 7.52 mg/L Nitrate, total 7.52 mg/L Phosphorus, total 2.09 mg/L	Amp.
REACOD10	Chemical Oxygen Demand (COD) Calibration Standard 10 mg/L	500 mL
REACOD100	Chemical Oxygen Demand (COD) Calibration Standard 100 mg/L solution	500 mL
REACOD1000	Chemical Oxygen Demand Reagent (COD) Calibration standard 1000 mg/L	500 mL
REACOD1300	Chemical Oxygen Demand Reagent COD Calibration standard 1300 mg/L solution	500 mL
REACOD1500	Chemical Oxygen Demand (COD) Calibration Standard 1500 mg/L	500 mL
REACOD200	Chemical Oxygen Demand Reagent COD Calibration standard 200 mg/L solution	500 mL
REACOD50	Chemical Oxygen Demand Reagent COD Calibration standard 200 mg/L solution	500 mL
REACOD500	Chemical Oxygen Demand Reagent COD Calibration standard 500 mg/L solution	500 mL
REACOD600	Chemical Oxygen Demand (COD) calibration standard 600 mg/L solution	500 mL
REAWTR50W	Chemical Oxygen Demand Reagent COD Reagent (1977 method)	2.5 L
RTC-COD500-100ML	COD 500 mg/L Calibration Standard Lot 022051 Certified values COD 500 ± 7.65 mg/L	100 mL
RTC-COD500-500ML	COD 500 mg/L Calibration Standard	500 mL

Code	Product	Unit
RTC-ALK500-100ML	Alkalinity, $CaCO_3$ 500 mg/L Calibration Standard Lot L017148 Certified values Alkalinity as $CaCO_3$ ..... 499 ± 7.56 mg/L	100 mL
RTC-ALK500-500ML	Alkalinity, $CaCO_3$ 500 mg/L Calibration Standard	500 mL
RTC-ALK1000-100ML	Alkalinity, $CaCO_3$ 1000 mg/L Calibration Standard Lot LRAA1063 Certified values Alkalinity as CaCO3 ..... 999 ± 15.3 mg/L	100 mL
RTC-ALK1000-500ML	Alkalinity, $CaCO_3$ 1000 mg/L Calibration Standard	500 mL
RTC-BOD1000-500ML	BOD 1000 mg/L Calibration Standard Lot LRAA1141 Certified values 5-day BOD ..... 1000 ± 15.3 mg/L	500 mL
RTC-BOD200-100ML	BOD 200 mg/L Calibration Standard Lot 022094 Certified values 5-day BOD ..... 200 ± 3.06 mg/L	100 mL
RTC-BOD200-500ML	BOD 200 mg/L Calibration Standard	500 mL
RTC-BOD500-100ML	BOD 500 mg/L Calibration Standard Lot 020598 Certified values BOD ..... 500 ± 7.65 mg/L	100 mL
RTC-BOD500-500ML	BOD 500 mg/L Calibration Standard	500 mL
RTC-BOD2000-500ML	BOD 2000 mg/L Calibration Standard Lot LRAA0500 Certified values 5-day BOD ..... 2000 ± 30.6 mg/L	500 mL
RTC-HARD1000-100ML	Hardness, Calcium 1000 mg/L Calibration Standard	100 mL
RTC-HARD1000-500ML	Hardness, Calcium 1000 mg/L Calibration Standard	500 mL
RTC-SAL20-100ML	Salinity 20% Wgt Calibration Standard Lot LRAA1244 Certified values Salinity.....20.0 ± 0.306 wt%	100 mL
RTC-SAL20-500ML	Salinity 20% Wgt Calibration Standard	500 mL
RTC-TDS1000-100ML	Total Dissolved Solids 1000 mg/L Calibration Standard	100 mL
RTC-TDS1000-500ML	Total Dissolved Solids 1000 mg/L Calibration Standard	500 mL
RTC-TDS1500-500ML	Total Dissolved Solids 1500 mg/L Calibration Standard	500 mL
RTC-THRD1000-100ML	Hardness, Total 1000 mg/L Calibration Standard	100 mL
RTC-THRD1000-500ML	Hardness, Total 1000 mg/L Calibration Standard	500 mL
RTC-TKN1000-100ML	Kjeldahl Nitrogen, Total (TKN) 1000mg/L Calibration Standard 100 mL	100 mL
RTC-TKN1000-500ML	Kjeldahl Nitrogen, Total (TKN) 1000mg/L Calibration Standard 500 mL	500 mL
RTC-TOC100-100ML	TOC 100 mg/L Calibration Standard	100 mL
RTC-TOC100-500ML	TOC 100 mg/L Calibration Standard	500 mL
RTC-TOC1000-100ML	TOC 1000 mg/L Calibration Standard	100 mL

Code	Product	Unit
RTC-TOC1000-500ML	TOC 1000 mg/L Calibration Standard	500 mL
RTC-TPC100-100ML	Total Phenolics 100mg/L Calibration Standard	100 mL
RTC-TSS10-100ML	Total Suspended Solids 10 mg/L Calibration Standard	100 mL
RTC-TPC100-500ML	Total Phenolics 100mg/L Calibration Standard	500 mL
RTC-TPC1000-100ML	Total Phenolics 1000mg/L Calibration Standard	100 mL
RTC-TPC1000-500ML	Total Phenolics 1000mg/L Calibration Standard	500 mL
RTC-TPO1000-100ML	Total Phosphorus 1000 mg/L Calibration Standard	100 mL
RTC-TPO1000-500ML	Total Phosphorus 1000 mg/L Calibration Standard	500 mL
RTC-TSS10-500ML	Total Suspended Solids 10 mg/L Calibration Standard	500 mL
RTC-TSS100-100ML	Total Suspended Solids 100 mg/L Calibration Standard	100 mL
RTC-TSS100-500ML	Total Suspended Solids 100 mg/L Calibration Standard	500 mL
RTC-TSS1000-100ML	Total Suspended Solids 1000 mg/L Calibration Standard	100 mL
RTC-TSS1000-500ML	Total Suspended Solids 1000 mg/L Calibration Standard	500 mL
RTC-QC1194-1EA	Settleable solids - WP Lot 018206 Certified values Settleable solids ..... 16.9 ± 0.455 mL/L	
RTC-QC1051-2ML	Complex Nutrients - WP Lot 018787 Certified values Kjeldahl nitrogen (TKN) ..... 13.9 ± 0.292 mg/L Nitrogen, total ..... 13.9 ± 0.605 mg/L Phosphorus, total ..... 0.959 ± 0.0125 mg/L	2 mL
RTC-QC1077-2ML	Dissolved Oxygen - WP Values of analytes vary from lot to lot Lot 016393 Certified values Oxygen, dissolved ..... 8.36 mg/L Oxygen, dissolved (Winkler) ..... 17.7 mg/L	2 mL
RTC-QC1046-2ML	Asbestos - WP Solvent: methanol Lot 016019 Asbestos ..... 44.7 ± 1.35 MF/L MF/L = (Million Fibers per Litre)	2 mL
RTC-QC1052-20ML	Trace Metals 2 This sample is intended as a Quality Control Check sample for, but not limited to validating calibration curves, method validation, analyst training, and matrix spikes. This is not intended for calibration purposes. Water, 5% nitric acid Lot 018460 Sb ..... 204 ± 3.90 µg/L Ba ..... 625 ± 8.42 µg/L B ..... 1,420 ± 36.9 µg/L Mo ..... 258 ± 3.38 µg/L Ag ..... 97.0 ± 2.32 µg/L Sr ..... 61.6 ± 0.929 µg/L Tl ..... 794 ± 10.6 µg/L	20 mL
RTC-QC1054-2ML	Total cyanide - WP A single sample for dilution up to 1 L Lot 016327 Total cyanide ..... 0.490 mg/l	Amp.

Code	Product	Unit
RTC-QC1060-20ML	Anions A single sample for dilution up to 2 L of reagent water.	20 mL

	Sample Target Concentration		Sample Target Concentration
Bromide	1 – 10 mg/L	Nitrite as Nitrogen	0.4 – 4 mg/L
Chloride	25 – 275 mg/L	Orthophosphate Phosphorous	0.5 – 5.5 mg/L
Fluoride	0.3 – 4 mg/L	Sulfate	5 – 125 mg/L
Nitrate as Nitrogen	0.25 – 40 mg/L		

RTC-QC1063-1KT	Trace metals by ICP - Constant value (2 sample set) Trace metals by ICP 1 RTC-QC1187-20ML Lot 001927	kit

	Certified values
As	61.3 µg/L
Be	71.6 µg/L
Ca	112 µg/L
Cd	102 µg/L
Cr	40.9 µg/L
Co	61.1 µg/L
Cu	71.2 µg/L
Fe	30.7 µg/L
Pb	71.5 µg/L
Li	61.6 µg/L
Mg	91.9 µg/L
Mn	40.9 µg/L
Mo	91.9 µg/L
Ni	71.2 µg/L
Sb	30.7 µg/L
Se	122 µg/L
Sr	143 µg/L
Tl	133 µg/L
Ti	72.1 µg/L
V	91.7 µg/L
Zn	30.6 µg/L

RTC-QC1286-20ML

Lot 001928

	Certified values
Ag	256 µg/L
Al	561 µg/L
Ba	650 µg/L
B	800 µg/L
K	3700 µg/L
Na	750 µg/L
Si	3000 µg/L

RTC-QC1064-1KT	Cyanide - Constant value kit (2 sample set) Cyanide – Constant value 1 RTC-QC1030-2ML Lot 014190	set

	Certified value
Total cyanide	0.626 mg/L

Cyanide – Constant value 2

RTC-QC1120-2ML

Lot 014752

	Certified value
Cyanide	0.482 mg/L

RTC-QC1073-20ML	Tannin & Lignin Lot LRAA0257 Certified value	20 mL

Tannin & Lignin	7.32 ± 0.0500 mg/L

RTC-QC1076-20ML	Alkalinity Lot 020451 Certified value	20 mL

Alkalinity as $CaCO_3$	70.5 ± 1.08 mg/L

Code	Product	Unit
RTC-QC1084-2ML	Chloride by ISE Lot 016265 Chloride ..... 125 ± 0.635 mg/L	2 mL
RTC-QC1085-20ML	pH-Constant Value Constant Value CRM A single sample for direct measurement of pH. pH ..... 7.2 units	20 mL
RTC-QC1097-20ML	Surfactants - Cationic Lot 012238 Surfactants – Cationic ..... 2.92 ± 0.0860 mg/L	20 mL
RTC-QC1129-20ML	Mercury WP Lot 018802 Mercury, Hg ..... 5.84 ± 0.0889 µg/L	20 mL
RTC-QC1130-20ML	Demand Lot 018480 5-day BOD ..... 30.5 ± 0.804 mg/L Carbonaceous BOD (CBOD) ..... 29.0 ± 1.05 mg/L Chemical oxygen demand ..... 50.3 ± 1.51 mg/L Total organic carbon (TOC) ..... 19.4 ± 0.381 mg/L	20 mL
RTC-QC1132-20ML	Trace Metals 1 Lot 018789 Certified values Al ..... 2190 ± 37.7 µg/L As ..... 311 ± 12.3 µg/L Be ..... 841 ± 12.1 µg/L Cd ..... 419 ± 6.83 µg/L Co ..... 927 ± 12.9 µg/L Cr (total) ..... 536 ± 8.10 µg/L Cu ..... 642 ± 10.00 µg/L Fe ..... 473 ± 9.11 µg/L Hg ..... 17.7 ± 1.65 µg/L Li ..... 926 ± 45.3 µg/L Mn ..... 2040 ± 25.6 µg/L Ni ..... 133 ± 1.61 µg/L Pb ..... 2010 ± 29.8 µg/L Se ..... 996 ± 20.8 µg/L V ..... 1190 ± 16.6 µg/L Zn ..... 608 ± 10.1 µg/L	20 mL
RTC-QC1144-20ML	Anionic Surfactants (MBAS) Sample for dilution in 1 litre Certified values Surfactants – MBAS ..... 0.414 ± 0.0313 mg/L Total organic carbon (TOC) ..... 1.45 ± 0.157 mg/L	20 mL
RTC-QC1153-2ML	Nitrite Lot 018784 Certified values Nitrate as N ..... 1.40 ± 0.0189 mg/L	2 mL
RTC-QC1154-20ML	Titanium & Tin Lot 018142 Tin, Sn ..... 1,320 ± 27.4 µg/L Titanium, Ti ..... 107 ± 2.58 µg/L	20 mL
RTC-QC1165-1KT	Nutrients - Constant Value RTC-QC1001-2ML Lot 018476 Certified values Kjeldahl nitrogen, total(TKN) ..... 7.52 mg/L Nitrate, total ..... 7.52 mg/L Phosphorus, total ..... 2.09 mg/L RTC-QC1166-20ML Lot 017495 Certified values Ammonia-N ..... 2.05 mg/L Nitrate-N ..... 1.99 mg/L Nitrite-N ..... 1.50 mg/L Orthophosphate as P ..... 0.758 mg/L	set
RTC-QC1166-20ML	Nutrients - Constant Value Lot 017495 (values of analytes vary from lot to lot) Ammonia-N ..... 2.05 mg/L Nitrate-N ..... 1.99 mg/L Nitrite-N ..... 1.50 mg/L Orthophosphate as P ..... 0.758 mg/L	20 mL

Code	Product	Unit
RTC-QC1175-1KT	Minerals - Constant value Set of two samples, each 20 mL Lot 018820/018821 Certified values Calcium, Ca ... 25.6 ± 0.440 mg/L Magnesium, Mg ... 10.2 ± 0.249 mg/L Potassium, K ... 8.10 ± 0.221 mg/L Sodium, Na ... 40.6 ± 0.947 mg/L Alkalinity as $CaCO_3$ ... 43.0 ± 0.853 mg/L Calcium hardness as $CaCO_3$ ... 64.0 ± 1.35 mg/L Chloride ... 85.5 ± 1.32 mg/L Conductivity (25°C) ... 454 ± 4.24 µmhos/cm Harndess, total as $CaCO_3$ ... 105 ± 1.27 mg/L Residue, total (TS) ... 269 ± 14.6 mg/L Residue-filterable (TDS) ... 239 ± 13.7 mg/L This kit is made up of 2 ampoules packaged as 20mL concentrates.	set
RTC-QC1195-20ML	Simple Nutrients - WP Lot 018782 Certified values Ammonia as N ... 14.4 ± 0.302 mg/L Nitrate as N ... 15.2 ± 0.540 mg/L Nitrate+nitrite as N ... 15.1 ± 0.416 mg/L Orthophosphate as P ... 2.54 ± 0.0621 mg/L	20 mL
RTC-QC1197-20ML	Non Ionic Surfactants in water Certified value Lot 018518 Surfactant – Non ionic ... 0.306 ± 0.00879 mg/L	20 mL
RTC-QC1210-20ML	pH - 20mL Lot 018464 pH ... 6.70 ± 0.0345	20 mL
RTC-QC1210-100ML	pH -100mL Lot LRAA0719 pH ... 7.64 ± 0.0204	100 mL
RTC-QC1210-250ML	pH - 250mL	250 mL
RTC-QC1251-2ML	Volatile Organic Compounds 2 - WP Lot 021250 Certified values Bromodichloromethane ... 46.7 ± 1.90 µg/L Bromoform ... 14.47 ± 0.562 µg/L Carbon tetrachloride ... 32.1 ± 1.13 µg/L Chlorobenzene ... 40.7 ± 1.22 µg/L Chloroform ... 22.9 ± 0.707 µg/L Dibromochloromethane ... 29.7 ± 1.01 µg/L 1,2-Dichloroethane ... 72.2 ± 1.96 µg/L Methylene chloride ... 55.3 ± 2.70 µg/L Tetrachloroethylene ... 16.5 ± 0.783 µg/L 1,1,1-Trichloroethane ... 51.7 ± 1.72 µg/L Trichloroethene ... 59.0 ± 2.50 µg/L	2 mL
RTC-QC1337-20ML	Anionic Surfactant - MBAS Lot 015984 Surfactants – MBAS ... 0.294 ± 0.0365 mg/L	20 mL
RTC-QC1342-2ML	Turbidity Lot 022317 Turbidity ... 0.615 ± 0.0248 NTU	2 mL
RTC-QC1364-20ML	Anions Lot 019311 Chloride ... 27.5 ± 0.630 mg/L Fluoride ... 6.70 ± 0.110 mg/L Nitrate as N ... 6.38 ± 0.0866 mg/L Nitrate+nitrite as N ... 7.28 ± 0.113 mg/L Nitrite as N ... 1.03 ± 0.0241 mg/L Orthophosphate as P ... 1.10 ± 0.0185 mg/L Sulfate ... 84.1 ± 1.9 mg/L	20 mL
RTC-QC1377-2ML	Organophosphorus Pesticides in Water (Low Level) - WP Lot 021161 Certified values Atrazine ... 52.9 ± 2.53 ng/L Azinphos-ethyl (Ethyl guthion) ... 151 ± 7.21 ng/L Azinphos-methyl (Guthion) ... 131 ± 6.81 ng/L Chlorfenvinphos ... 139 ± 4.05 ng/L Chlorothalonil ... 180 ± 5.25 ng/L Chlorpyrifos ... 95.0 ± 2.77 ng/L Diazinon ... 168 ± 4.89 ng/L Dimethoate ... 74.6 ± 2.96 ng/L Fenitrothion ... 36.7 ± 1.87 ng/L Fenthion ... 93.7 ± 2.73 ng/L Malathion ... 179 ± 5.22 ng/L Methyl parathion ... 171 ± 4.98 ng/L Parathion, ethyl ... 98.9 ± 3.01 ng/L Pendimethaline ... 175 ± 5.10 ng/L Primicarb ... 112 ± 3.27 ng/L Propetamphos ... 144 ± 4.28 ng/L Simazine ... 34.0 ± 1.02 ng/L Terbutryn ... 110 ± 3.18 ng/L Trietazine ... 84.1 ± 2.58 ng/L Dichlorovos ... 85.3 ± 2.49 ng/L	2 mL
RTC-QC1380-20ML	Formaldehyde in water - QC Lot LRAA0280 Certified values Formaldehyde ... 47.5 ± 1.82 mg/L	20 mL

Waters

Code	Product	Unit
RTC-QC1388-20ML	Demand (Low Level) Lot 018480 5-day BOD ..... 31.2 ± 0.782 mg/L Chemical oxygen demand ..... 49.8 ± 1.50 mg/L Total organic carbon (TOC) ..... 19.7 ± 0.442 mg/L	20 mL
RTC-QC1399-2ML	Asbestos Lot 013770 Oil & Grease ..... 31.9 ± 0.173 mg/L	2 mL
RTC-QC1404-2ML	Oil and Grease	2 mL
RTC-QC1453-20ML	Chromium VI Lot 016649 Chromium VI, Cr(VI) ..... 18.5 ± 0.0940 µg/L	20 mL
RTC-QC1549-2ML	Dissolved Oxygen Lot 018426 Oxygen, dissolved ..... 8.62 ± 0.404 mg/L Oxygen, dissolved (Winkler) ..... 38.5 ± 2.72 mg/L	2 mL
RTC-QC1619-2ML	TX TPH in Water - High Lot 018067 Certified values C6 Aliphatics ..... 1.24 mg/L >C6 to C8 Aliphatics ..... 6.21 mg/L >C8 to C10 Aliphatics ..... 3.60 mg/L >C10 to C12 Aliphatics ..... 7.31 mg/L >C12 to C16 Aliphatics ..... 16.7 mg/L >C16 to C21 Aliphatics ..... 11.2 mg/L >C7-C8 Aliphatics ..... 2.57 mg/L >C8 to C10 Aromatics ..... 4.97 mg/L >C10 to C12 Aromatics ..... 4.10 mg/L >C12 to C16 Aromatics ..... 16.8 mg/L >C16 to C21 Aromatics ..... 8.44 mg/L Total Petroleum Hydrocarbons (TPH), (C6 to C35) ..... 120 ± 8.76 mg/L Diesel-range total Petroleum Hydrocarbons, (>C12 to C28) ..... 88.4 ± 7.89 mg/L Gasoline Range Organics, (C6-C12) ..... 47.4 ± 5.67 mg/L	2 mL
RTC-QC1642-2ML	BTEX/MTBE in Water Lot 018340 Certified values Benzene ..... 101 ± 11.0 µg/L Ethylbenzene ..... 24.0 ± 3.65 µg/L Methyl tert-butyl ether (MTBE) ..... 28.6 ± 0.625 µg/L Toluene ..... 70.3 ± 12.8 µg/L m+p-Xylene ..... 82.5 ± 19.4 µg/L o-Xylene ..... 32.0 ± 7.52 µg/L Xylene, total ..... 112 ± 19.4 µg/L	2 mL
RTC-QC1799-2ML	TX TPH in Water - Low Lot 018624 Certified values C6 Aliphatics ..... 1.24 ± 0.0212 mg/L >C6 to C8 Aliphatics ..... 6.21 ± 0.0360 mg/L >C8 to C10 Aliphatics ..... 3.60 ± 0.0120 mg/L >C10 to C12 Aliphatics ..... 7.31 ± 0.0220 mg/L >C12 to C16 Aliphatics ..... 16.7 ± 0.0360 mg/L >C16 to C21 Aliphatics ..... 11.2 ± 0.0240 mg/L >C7-C8 Aliphatics ..... 2.57 ± 0.0120 mg/L >C8 to C10 Aromatics ..... 4.97 ± 0.0270 mg/L >C10 to C12 Aromatics ..... 4.10 ± 0.0240 mg/L >C12 to C16 Aromatics ..... 16.8 ± 0.0450 mg/L >C16 to C21 Aromatics ..... 8.44 ± 0.0260 mg/L Total Petroleum Hydrocarbons (TPH), (C6 to C35) ..... 12.2 ± 1.38 mg/L Diesel-range total Petroleum Hydrocarbons, (>C12 to C28) ..... 5.28 ± 1.48 mg/L Gasoline Range Organics, (C6-C12) ..... 5.43 ± 0.785 mg/L	2 mL
RTC-QC3051-500ML	Complex nutrients - Whole volume - WP Lot 019322 Certified values Kjeldahl nitrogen (TKN) ..... 8.53 ± 1.29 mg/L Phosphorus, total ..... 4.87 ± 0.0516 mg/L	500 mL
RTC-QC3198-500ML	Simple nutrients - Whole volume - WP Lot 018782/018784 Certified values Ammonia as N ..... 14.0 ± 0.932 mg/L Nitrate as N ..... 15.2 ± 0.328 mg/L Nitrate + nitrite as N ..... 16.4 ± 1.03 mg/L Nitrate as N ..... 1.40 ± 0.0526 mg/L Orthophosphate as P ..... 2.54 ± 0.148 mg/L	500 mL

Reference waters for total phosphorus and for mercury

NWHG97-10	Water - Mercury 0.040 mg/L	125 mL
NWTP97-1	Water - Total phosphorus 0.273 mg/L	125 mL
NWTP97-10	Water - Total phosphorus 0.713 mg/L	125 mL
NWTP97-2	Water - Total phosphorus 0.315 mg/L	125 mL
NWTP97-3	Water - Total phosphorus 0.168 mg/L	125 mL
NWTP97-4	Water - Total phosphorus 0.546 mg/L	125 mL
NWTP97-5	Water - Total phosphorus 0.003 mg/L	125 mL

Code	Product	Unit
NWTP97-6	Water - Total phosphorus 0.022 mg/L	125 mL
NWTP97-7	Water - Total phosphorus 0.002 mg/L	125 mL
NWTP97-8	Water - Total phosphorus 0.869 mg/L	125 mL
NWTP97-9	Water - Total phosphorus 0.008 mg/L	125 mL

Sediments

Freshwater sediments

Code	Product	Unit
ERM-CC020	Contaminated river sediment - Trace elements Aqua regia extractable elements according to ISO 11466	50 g

Arsenic (As)	56.6 ± 2.6 mg/kg	Lead (Pb)	255 ± 11 mg/kg
Cadmium (Cd)	20.8 ± 0.5 mg/kg	Mercury (Hg)	27.4 ± 0.6 mg/kg
Chromium (Cr)	290 ± 8 mg/kg	Nickel (Ni)	158 ± 6 mg/kg
Cobalt (Co)	32.8 ± 1.5 mg/kg	Vanadium (V)	53 ± 4 mg/kg
Copper (Cu)	560 ± 11 mg/kg	Zinc (Zn)	2030 ± 40 mg/kg

Code	Product	Unit
NCS DC73312A	Stream sediment	70 g

Certified values

Ag	0.040 ± 0.011 µg/g	Ho	0.96 ± 0.08 µg/g	Ta	4.9 ± 0.6 µg/g
As	6.6 ± 0.5 µg/g	I	0.64 ± 0.12 µg/g	Tb	0.80 ± 0.07 µg/g
B	9.7 ± 0.7 µg/g	La	55 ± 2 µg/g	Th	38 ± 3 µg/g
Ba	113 ± 7 µg/g	Li	63 ± 4 µg/g	Ti	0.106 ± 0.010 %
Be	6.7 ± 0.6 µg/g	Lu	0.57 ± 0.05 µg/g	Tl	1.85 ± 0.19 µg/g
Bi	0.33 ± 0.03 µg/g	Mn	218 ± 10 µg/g	Tm	0.55 ± 0.05 µg/g
Cd	0.108 ± 0.2 µg/g	Mo	1.1 ± 0.1 µg/g	U	6.6 ± 0.4 µg/g
Ce	106 ± 5 µg/g	N	227 ± 26 µg/g	V	10.5 ± 1.3 µg/g
Cl	67 ± 11 µg/g	Nb	40 ± 5 µg/g	W	6.1 ± 0.4 µg/g
Co	2.3 ± 0.3 µg/g	Nd	32 ± 2 µg/g	Y	25 ± 3 µg/g
Cr	25 ± 4 µg/g	Ni	4.7 ± 0.7 µg/g	Yb	3.6 ± 0.3 µg/g
Cs	10.5 ± 0.3 µg/g	Pb	35 ± 2 µg/g	Zn	39 ± 3 µg/g
Cu	4.2 ± 0.8 µg/g	Pr	11.2 ± 0.4 µg/g	Zr	142 ± 16 µg/g
Dy	4.7 ± 0.3 µg/g	Rb	414 ± 10 µg/g	SiO_2	78.12 ± 0.25 %
Er	3.1 ± 0.3 µg/g	S	76 ± 14 µg/g	Al_2O_3	11.06 ± 0.10 %
Eu	0.28 ± 0.02 µg/g	Sb	0.80 ± 0.06 µg/g	Fe_2O_3	1.53 ± 0.04 %
F	1300 ± 100 µg/g	Sc	3.0 ± 0.2 µg/g	MgO	0.15 ± 0.02 %
Ga	18.8 ± 0.4 µg/g	Se	0.10 ± 0.02 µg/g	CaO	0.13 ± 0.01 %
Gd	4.8 ± 0.4 µg/g	Sm	6.1 ± 0.2 µg/g	Na_2O	1.49 ± 0.04 %
Ge	1.41 ± 0.26 µg/g	Sn	8.6 ± 1.0 µg/g	K_2O	5.34 ± 0.11 %
Hg	0.018 ± 0.005 µg/g	Sr	20 ± 3 µg/g	C_{org}	0.26 ± 0.02 %

Reference values

Hf	5.8 µg/g	Te	0.03 µg/g	CO_2	0.15 %
In	0.036 µg/g	FeO	0.56 %	TC	0.3 %
P	120 µg/g	H_2O^+	1.26 %		

Code	Product	Unit
NCS DC73313A	Stream sediment	70 g

Certified values

Ag	0.20 ± 0.02 µg/g	Ho	1.04 ± 0.05 µg/g	Ta	1.58 ± 0.12 µg/g
As	16.7 ± 1.3 µg/g	I	1.7 ± 0.2 µg/g	Tb	0.90 ± 0.04 µg/g
B	57 ± 7 µg/g	In	0.068 ± 0.007 µg/g	Th	16.3 ± 0.8 µg/g
Ba	550 ± 15 µg/g	La	43 ± 1 µg/g	Ti	0.43 ± 0.04 %
Be	2.7 ± 0.1 µg/g	Li	35 ± 3 µg/g	Tl	1.25 ± 0.04 µg/g
Bi	0.68 ± 0.03 µg/g	Lu	0.51 ± 0.03 µg/g	Tm	0.51 ± 0.03 µg/g
Br	1.4 ± 0.2 µg/g	Mn	792 ± 25 µg/g	U	3.8 ± 0.1 µg/g
Cd	0.50 ± 0.06 µg/g	Mo	48 ± 2 µg/g	V	74 ± 2 µg/g
Ce	86 ± 4 µg/g	N	588 ± 32 µg/g	W	3.9 ± 0.3 µg/g
Co	13.6 ± 0.5 µg/g	Nb	21 ± 1 µg/g	Y	29 ± 1 µg/g
Cr	48 ± 2 µg/g	Nd	34 ± 1 µg/g	Yb	3.3 ± 0.2 µg/g
Cs	9.4 ± 0.3 µg/g	Ni	20 ± 1 µg/g	Zn	102 ± 2 µg/g
Cu	202 ± 7 µg/g	P	426 ± 33 µg/g	Zr	283 ± 13 µg/g
Dy	5.2 ± 0.2 µg/g	Pb	45 ± 2 µg/g	SiO_2	72.45 ± 0.22 %
Er	3.1 ± 0.2 µg/g	Pr	9.4 ± 0.2 µg/g	Al_2O_3	12.45 ± 0.07 %
Eu	1.17 ± 0.02 µg/g	Rb	153 ± 3 µg/g	TFe_2O_3	4.72 ± 0.07 %
F	578 ± 25 µg/g	Sb	3.8 ± 0.2 µg/g	MgO	0.72 ± 0.02 %
Ga	17.0 ± 0.5 µg/g	Sc	10.6 ± 0.4 µg/g	CaO	0.44 ± 0.02 %
Gd	5.5 ± 0.2 µg/g	Se	0.57 ± 0.05 µg/g	Na_2O	0.39 ± 0.02 %
Ge	1.41 ± 0.10 µg/g	Sm	6.3 ± 0.2 µg/g	K_2O	2.87 ± 0.04 %
Hf	7.6 ± 1.3 µg/g	Sn	4.1 ± 0.4 µg/g	H_2O^+	3.78 ± 0.30 %
Hg	0.067 ± 0.004 µg/g	Sr	85 ± 4 µg/g		

Reference values

Cl	39 µg/g	FeO	0.72 %	C_{org} (calculated)	0.54 %
S	0.27 %	CO_2	0.25 %	TC	0.3 %

Code	Product	Unit
NCS DC73314A	Stream sediment	70 g

Certified values

Ag 0.22 ± 0.03 µg/g	I 1.6 ± 0.2 µg/g	Tb 0.92 ± 0.04 µg/g
As 21 ± 2 µg/g	In 0.061 ± 0.006 µg/g	Th 16.3 ± 0.8 µg/g
B 91 ± 5 µg/g	La 44 ± 1 µg/g	Ti 0.54 ± 0.03 %
Ba 369 ± 11 µg/g	Li 39 ± 2 µg/g	Tl 1.28 ± 0.08 µg/g
Be 2.0 ± 0.1 µg/g	Lu 0.50 ± 0.03 µg/g	Tm 0.50 ± 0.03 µg/g
Bi 0.70 ± 0.03 µg/g	Mn 1010 ± 38 µg/g	U 3.2 ± 0.2 µg/g
Br 1.9 ± 0.3 µg/g	Mo 1.6 ± 0.2 µg/g	V 99 ± 3 µg/g
Cd 0.90 ± 0.05 µg/g	N 1100 ± 90 µg/g	W 2.6 ± 0.3 µg/g
Ce 90 ± 3 µg/g	Nb 20 ± 1 µg/g	Y 29 ± 2 µg/g
Co 16.0 ± 0.4 µg/g	Nd 36 ± 2 µg/g	Yb 3.2 ± 0.3 µg/g
Cr 70 ± 3 µg/g	Ni 28 ± 1 µg/g	Zn 139 ± 4 µg/g
Cs 7.3 ± 0.3 µg/g	P 459 ± 18 µg/g	Zr 351 ± 15 µg/g
Cu 33 ± 1 µg/g	Pb 68 ± 3 µg/g	SiO_2 73.85 ± 0.35 %
Dy 5.3 ± 0.4 µg/g	Pr 9.9 ± 0.2 µg/g	Al_2O_3 10.94 ± 0.06 %
Er 3.0 ± 0.3 µg/g	Rb 89 ± 3 µg/g	TFe_2O_3 4.55 ± 0.10 %
Eu 1.30 ± 0.03 µg/g	S 361 ± 0.2 µg/g	MgO 0.60± 0.02 %
F 482 ± 17 µg/g	Sb 2.8 ± 0.3 µg/g	CaO 0.82 ± 0.03 %
Ga 15.2 ± 0.4 µg/g	Sc 11.0 ± 0.4 µg/g	Na_2O 0.34 ± 0.02 %
Gd 5.9 ± 0.2 µg/g	Se 0.43 ± 0.04 µg/g	K_2O 1.51 ± 0.03 %
Ge 1.48 ± 0.13 µg/g	Sm 6.6 ± 0.2 µg/g	C_{org} 1.00 ± 0.05 %
Hf 9.7 ± 1.0 µg/g	Sn 4.0 ± 0.5 µg/g	TC 1.10 ± 0.05 %
Hg 0.078 ± 0.006 µg/g	Sr 143 ± 5 µg/g	
Ho 1.05 ± 0.06 µg/g	Ta 1.38 ± 0.12 µg/g	

Reference values

Te 0.09 µg/g	H_2O^+ 4.3 %
FeO 0.85 %	CO_2 4.3 %

Code	Product	Unit
NCS DC73315A	Stream sediment	70 g

Certified values

Ag 0.63 ± 0.06 µg/g	Ho 1.03 ± 0.08 µg/g	Sr 78 ± 2 µg/g
As 74 ± 4 µg/g	I 2.4 ± 0.4 µg/g	Ta 1.3 ± 0.1 µg/g
B 96 ± 8 µg/g	In 0.117 ± 0.010 µg/g	Tb 0.90 ± 0.06 µg/g
Ba 681 ± 16 µg/g	La 41 ± 1 µg/g	Th 14.8 ± 0.7 µg/g
Be 2.5 ± 0.1 µg/g	Li 42 ± 2 µg/g	Ti 0.46 ± 0.02 %
Bi 3.0 ± 0.2 µg/g	Lu 0.49 ± 0.03 µg/g	Tl 0.84 ± 0.06 µg/g
Br 1.7 ± 0.3 µg/g	Mn 917 ± 25 µg/g	Tm 0.48 ± 0.03 µg/g
Cd 1.37 ± 0.10 µg/g	Mo 1.64 ± 0.09 µg/g	U 3.9 ± 0.2 µg/g
Ce 82 ± 2 µg/g	N 640 ± 54 µg/g	V 99 ± 3 µg/g
Co 15.3 ± 0.5 µg/g	Nb 17.3 ± 0.7 µg/g	W 5.5 ± 0.3 µg/g
Cr 68 ± 2 µg/g	Nd 34 ± 1 µg/g	Y 29 ± 2 µg/g
Cs 10.4 ± 0.2 µg/g	Ni 31 ± 1 µg/g	Yb 3.1 ± 0.3 µg/g
Cu 118 ± 4 µg/g	P 575 ± 23 µg/g	Zn 263 ± 5 µg/g
Dy 5.1 ± 0.2 µg/g	Pb 102 ± 4 µg/g	Zr 275 ± 17 µg/g
Er 3.0 ± 0.2 µg/g	Pr 9.3 ± 0.2 µg/g	SiO_2 69.33 ± 0.20 %
Eu 1.23 ± 0.03 µg/g	Rb 129 ± 4 µg/g	Al_2O_3 13.40 ± 0.09 %
F 582 ± 17 µg/g	S 0.24 ± 0.03 %	TFe_2O_3 5.27 ± 0.07 %
Ga 18.7 ± 0.6 µg/g	Sb 8.9 ± 0.7 µg/g	MgO 1.29 ± 0.03 %
Gd 5.5 ± 0.2 µg/g	Sc 12.1 ± 0.5 µg/g	CaO 0.77 ± 0.02 %
Ge 1.59 ± 0.11 µg/g	Se 0.37 ± 0.04 µg/g	Na_2O 0.64 ± 0.03 %
Hf 8.2 ± 0.6 µg/g	Sm 6.1 ± 0.1 µg/g	K_2O 2.59 ± 0.05 %
Hg 0.29 ± 0.03 µg/g	Sn 5.0 ± 0.5 µg/g	H_2O^+ 3.97 ± 0.26 %

Reference values

Cl 36 µg/g	FeO 0.78 %	C_{org} (calculated) 0.51 %
Te 0.3 µg/g	CO_2 0.45 %	TC 0.7 %

Sediments

Code	Product	Unit
NCS DC73317A	Stream sediment	70 g

Certified values

Ag 1.20 ± 0.08 µg/g	Ho 0.59 ± 0.05 µg/g	Ta 0.71 ± 0.06 µg/g
As 11.3 ± 1.0 µg/g	I 0.54 ± 0.12 µg/g	Tb 0.52 ± 0.06 µg/g
B 195 ± 32 µg/g	In 0.038 ± 0.006 µg/g	Th 6.7 ± 0.4 µg/g
Ba 437 ± 12 µg/g	La 27 ± 2 µg/g	Ti 0.41 ± 0.02 %
Be 1.6 ± 0.1 µg/g	Li 37 ± 3 µg/g	Tl 0.45 ± 0.07 µg/g
Bi 0.18 ± 0.05 µg/g	Lu 0.27 ± 0.03 µg/g	Tm 0.27 ± 0.02 µg/g
Cd 5.6 ± 0.6 µg/g	Mn 886 ± 25 µg/g	U 1.7 ± 0.1 µg/g
Ce 54 ± 2 µg/g	Mo 0.82 ± 0.05 µg/g	V 77 ± 4 µg/g
Cl 51 ± 10 µg/g	N 358 ± 39 µg/g	W 1.11 ± 0.06 µg/g
Co 15.2 ± 0.7 µg/g	Nb 11.3 ± 0.5 µg/g	Y 16.0 ± 0.7 µg/g
Cr 43 ± 1 µg/g	Nd 22.1 ± 0.5 µg/g	Yb 1.7 ± 0.2 µg/g
Cs 3.5 ± 0.3 µg/g	Ni 22.0 ± 0.6 µg/g	Zn 780 ± 19 µg/g
Cu 22.5 ± 1.0 µg/g	P 633 ± 14 µg/g	Zr 184 ± 5 µg/g
Dy 2.9 ± 0.2 µg/g	Pb 555 ± 19 µg/g	SiO_2 68.30 ± 0.24 %
Er 1.7 ± 0.2 µg/g	Pr 6.1 ± 0.4 µg/g	Al_2O_3 11.02 ± 0.08 %
Eu 0.93 ± 0.04 µg/g	Rb 63 ± 3 µg/g	TFe_2O_3 4.18 ± 0.05 %
F 460 ± 14 µg/g	S 325 ± 54 µg/g	MgO 2.50 ± 0.05 %
Ga 14.4 ± 1.1 µg/g	Sb 2.1 ± 0.2 µg/g	CaO 2.96 ± 0.05 %
Gd 3.4 ± 0.2 µg/g	Sc 7.2 ± 0.4 µg/g	Na_2O 2.27 ± 0.05 %
Ge 1.15 ± 0.13 µg/g	Sm 3.9 ± 0.2 µg/g	K_2O 1.83 ± 0.05 %
Hf 5.3 ± 0.4 µg/g	Sn 2.5 ± 0.4 µg/g	H_2O^+ 2.38 ± 0.14 %
Hg 1.68 ± 0.27 µg/g	Sr 236 ± 6 µg/g	C_{org} 0.48 ± 0.04 %

Reference values

Br 1.3 µg/g	Te 0.04 µg/g	CO_2 2.8 %
Se 0.26 µg/g	FeO 0.78 %	TC 1.28 %

NCS DC73318A	Stream sediment	70 g

Certified values

Ag 0.12 ± 0.02 µg/g	Ho 1.06 ± 0.04 µg/g	Tb 0.90 ± 0.02 µg/g
As 7.3 ± 0.5 µg/g	I 1.2 ± 0.2 µg/g	Th 20.5 ± 1.1 µg/g
B 5.3 ± 1.1 µg/g	In 0.070 ± 0.006 µg/g	Ti 0.29 ± 0.01 %
Ba 620 ± 17 µg/g	La 45 ± 2 µg/g	Tl 1.60 ± 0.16 µg/g
Be 3.5 ± 0.3 µg/g	Li 22 ± 2 µg/g	Tm 0.53 ± 0.04 µg/g
Bi 0.18 ± 0.02 µg/g	Lu 0.54 ± 0.05 µg/g	U 4.7 ± 0.3 µg/g
Br 1.1 ± 0.2 µg/g	Mn 645 ± 22 µg/g	V 31 ± 3 µg/g
Cd 0.16 ± 0.01 µg/g	Mo 1.3 ± 0.1 µg/g	W 3.3 ± 0.2 µg/g
Ce 88 ± 3 µg/g	Nb 27 ± 3 µg/g	Y 29 ± 3 µg/g
Co 6.8 ± 0.6 µg/g	Nd 33 ± 1 µg/g	Yb 3.4 ± 0.4 µg/g
Cr 11.6 ± 1.6 µg/g	Ni 3.0 ± 0.6 µg/g	Zn 80 ± 2 µg/g
Cs 9.7 ± 0.3 µg/g	P 221 ± 10 µg/g	Zr 228 ± 10 µg/g
Cu 5.8 ± 1.4 µg/g	Pb 37 ± 2 µg/g	SiO_2 73.58 ± 0.27 %
Dy 5.4 ± 0.4 µg/g	Pr 9.4 ± 0.3 µg/g	Al_2O_3 13.25 ± 0.07 %
Er 3.1 ± 0.5 µg/g	Rb 232 ± 4 µg/g	TFe_2O_3 3.70 ± 0.05 %
Eu 1.03 ± 0.03 µg/g	Sb 0.38 ± 0.05 µg/g	MgO 0.47 ± 0.04 %
F 646 ± 13 µg/g	Sc 9.0 ± 0.7 µg/g	CaO 0.17 ± 0.02 %
Ga 18.5 ± 0.4 µg/g	Se 0.14 ± 0.02 µg/g	Na_2O 0.38 ± 0.02 %
Gd 5.6 ± 0.2 µg/g	Sm 6.3 ± 0.1 µg/g	K_2O 4.31 ± 0.07 %
Ge 1.15 ± 0.12 µg/g	Sn 3.8 ± 0.4 µg/g	H_2O^+ 2.98 ± 0.30 %
Hf 6.7 ± 0.8 µg/g	Sr 52 ± 2 µg/g	
Hg 0.024 ± 0.005 µg/g	Ta 1.88 ± 0.18 µg/g	

Reference values

Cl 29 µg/g	Te 0.03 µg/g	C_{org} 0.11 %
N 119 µg/g	FeO 0.43 %	TC 0.18 %
S 66 µg/g	CO_2 0.16 %	

NIM-GBW07301A	Stream sediment - Trace elements and oxides (NCS DC73371)	70 g

Certified values

Ag 0.034±0.011 µg/g	Ho 0.79±0.07 µg/g	Th 27±3 µg/g
As 2.7±0.3 µg/g	La 41±2 µg/g	Tl 0.67±0.14 µg/g
Ba 920±70 µg/g	Li 32±4 µg/g	Tm 0.34±0.03 µg/g
Be 2.9±0.3 µg/g	Lu 0.39±0.04 µg/g	U 4.6±0.5 µg/g
Bi 0.49±0.12 µg/g	Mn 910±30 µg/g	V 115±9 µg/g
Cd 0.11±0.03 µg/g	Mo 1.05±0.13 µg/g	W 1.0±0.1 µg/g
Ce 81±6 µg/g	Nb 31±1 µg/g	Y 22±2 µg/g
Co 20±2 µg/g	Nd 36±3 µg/g	Yb 2.3±0.2 µg/g
Cr 126±6 µg/g	Ni 56±7 µg/g	Zn 90±7 µg/g
Cs 5.5±0.2 µg/g	P 1520±70 µg/g	Zr 316±15 µg/g
Cu 29±2 µg/g	Pb 31±4 µg/g	SiO_2 59.2±0.2 %
Dy 4.3±0.2 µg/g	Pr 9.3±0.7 µg/g	Al_2O_3 15.4±0.1 %
Er 2.3±0.3 µg/g	Rb 126±6 µg/g	TFe_2O_3 6.50±0.15 %
Eu 1.7±0.2 µg/g	Sb 0.30±0.05 µg/g	MgO 3.30±0.12 %
F 860±50 µg/g	Sc 14±2 µg/g	CaO 4.0±0.1 %
Ga 23.6±1.5 µg/g	Se 0.11±0.03 µg/g	Na_2O 3.4±0.1 %
Gd 5.6±0.5 µg/g	Sm 6.7±0.4 µg/g	K_2O 2.8±0.1 %
Ge 1.6±0.3 µg/g	Sr 480±40 µg/g	L.O.I 3.8±0.2 %
Hf 9.1±0.6 µg/g	Ta 3.0±0.2 µg/g	
Hg 0.031±0.004 µg/g	Tb 0.81±0.06 µg/g	

Indicative values for B, Cl, Sn, In, Ti, H_2O^+, CO_2

Code	Product	Unit

NIM-GBW07302 — Chinese stream sediment - Trace elements and oxides (NCS DC73312) — 70 g

Certified values

Ag 0.066±0.010 µg/g	Hg 0.040±0.008 µg/g	Tb 1.8±0.4 µg/g
As 6.2±0.6 µg/g	Ho 2.6±0.4 µg/g	Th 70±4 µg/g
B 10.8±2.5 µg/g	I 2.9±0.4 µg/g	Ti 1380±80 µg/g
Ba 185±24 µg/g	La 90±7 µg/g	Tl 1.9±0.4 µg/g
Be 17.1±1.1 µg/g	Li 101±4 µg/g	Tm 1.55±0.21 µg/g
Bi 1.64±0.11 µg/g	Mn 240±20 µg/g	U 17±2 µg/g
Br 3.0±0.6 µg/g	Mo 2.0±0.3 µg/g	V 16.5±1.9 µg/g
Cd 0.065±0.011 µg/g	N 363±60 µg/g	W 24±2 µg/g
Ce 192±5 µg/g	Nb 95±6 µg/g	Y 67±9 µg/g
Co 2.6±0.7 µg/g	Nd 62±7 µg/g	Yb 11±1 µg/g
Cr 12±3 µg/g	Ni 5.5±1.4 µg/g	Zn 44±5 µg/g
Cs 16.6±1.7 µg/g	P 200±27 µg/g	Zr 460±27 µg/g
Cu 4.9±0.5 µg/g	Pb 32±5 µg/g	SiO_2 69.91±0.17 %
Dy 11±2 µg/g	Pr 18.6±3.0 µg/g	Al_2O_3 15.72±0.10 %
Er 8.2±0.6 µg/g	Rb 470±23 µg/g	TFe_2O_3 1.90±0.06 %
Eu 0.49±0.09 µg/g	Sb 0.46±0.12 µg/g	FeO 0.56±0.09 %
F 1980±163 µg/g	Sc 4.4±0.7 µg/g	MgO 0.21±0.02 %
Ga 27.4±1.3 µg/g	Se 0.20±0.05 µg/g	CaO 0.25±0.04 %
Gd 9.5±1.3 µg/g	Sm 10.8±0.9 µg/g	Na_2O 3.03±0.09 %
Ge 1.7±0.3 µg/g	Sn 29±3 µg/g	K_2O 5.20±0.09 %
Hf 20±3 µg/g	Ta 15.3±1.3 µg/g	H_2O^+ 2.58±0.28 %

H_2O^+ : Loss of water at 950°C

Indicative values for Cl, In, Lu, S, Sr, Te, CO_2, C org., TC

NIM-GBW07306 — Chinese stream sediment - Trace elements and oxides (NCS DC73316) — 70 g

Certified values

Ag 0.36±0.03 µg/g	La 39±6 µg/g	Ti 4640±120 µg/g
As 13.6±1.0 µg/g	Li 40±1 µg/g	Tl 1.08±0.15 µg/g
B 50±7 µg/g	Lu 0.34±0.09 µg/g	Tm 0.35±0.06 µg/g
Ba 330±24 µg/g	Mn 970±37 µg/g	U 2.4±0.4 µg/g
Be 1.7±0.3 µg/g	Mo 7.7±0.8 µg/g	V 142±8 µg/g
Bi 5.0±0.4 µg/g	Nb 12±3 µg/g	W 25±2 µg/g
Cd 0.43±0.03 µg/g	Nd 33±6 µg/g	Y 20±2 µg/g
Ce 68±7 µg/g	Ni 78±5 µg/g	Yb 2.1±0.3 µg/g
Co 24.4±1.9 µg/g	P 1020±42 µg/g	Zn 144±7 µg/g
Cr 190±15 µg/g	Pb 27±4 µg/g	Zr 170±8 µg/g
Cs 9.1±1.3 µg/g	Pr 8.4±0.8 µg/g	SiO_2 61.24±0.13 %
Cu 383±12 µg/g	Rb 107±6 µg/g	Al_2O_3 14.16±0.09 %
Dy 3.8±0.9 µg/g	S 784±118 µg/g	TFe_2O_3 5.88±0.07 %
Er 2.2±0.5 µg/g	Sb 1.25±0.22 µg/g	FeO 1.58±0.14 %
Eu 1.50±0.13 µg/g	Sc 17±2 µg/g	MgO 3.00±0.06 %
F 690±35 µg/g	Se 0.30±0.08 µg/g	CaO 3.87±0.07 %
Ga 16.7±0.7 µg/g	Sm 5.6±0.6 µg/g	Na_2O 2.30±0.07 %
Gd 5.5±0.9 µg/g	Sn 2.8±0.7 µg/g	K_2O 2.43±0.05 %
Ge 1.3±0.3 µg/g	Sr 266±18 µg/g	H_2O^+ 3.49±0.27 %
Hf 4.9±1.4 µg/g	Ta 0.75±0.09 µg/g	CO_2 2.03±0.12 %
Hg 0.045±0.008 µg/g	Tb 0.69±0.17 µg/g	TC 0.91±0.15 %
Ho 0.76±0.10 µg/g	Te 0.14±0.04 µg/g	
In 0.14±0.03 µg/g	Th 9.0±1.4 µg/g	

Indicative value for C org.

NIM-GBW07312 — Chinese stream sediment - Trace elements and oxides — 70 g

Certified values

Ag 1.15±0.11 µg/g	Ho 0.94±0.07 µg/g	Tb 0.82±0.06 µg/g
As 115±6 µg/g	I 1.8±0.3 µg/g	Te 0.30±0.07 µg/g
B 24±2 µg/g	In 0.96±0.15 µg/g	Th 21.4±1.1 µg/g
Ba 206±15 µg/g	La 32.7±1.4 µg/g	Ti 1510±50 µg/g
Be 8.2±0.7 µg/g	Li 39.0±1.0 µg/g	Tl 1.76±0.27 µg/g
Bi 10.9±0.9 µg/g	Lu 0.58±0.06 µg/g	Tm 0.53±0.06 µg/g
Br 1.7±0.4 µg/g	Mn 1400±47 µg/g	U 7.8±0.7 µg/g
Cd 4.0±0.3 µg/g	Mo 8.4±0.6 µg/g	V 47±4 µg/g
Ce 61±4 µg/g	Nb 15.4±1.1 µg/g	W 37±2 µg/g
Cl 163±25 µg/g	Nd 26±3 µg/g	Y 29±3 µg/g
Co 8.8±0.7 µg/g	Ni 12.8±1.3 µg/g	Yb 3.7±0.4 µg/g
Cr 35±3 µg/g	P 235±22 µg/g	Zn 498±18 µg/g
Cs 7.9±0.4 µg/g	Pb 285±11 µg/g	Zr 234±16 µg/g
Cu 1230±33 µg/g	Pr 6.9±1.1 µg/g	SiO_2 77.29±0.13 %
Dy 4.8±0.2 µg/g	Rb 270±10 µg/g	Al_2O_3 9.30±0.11 %
Er 3.1±0.3 µg/g	S 940±54 µg/g	TFe_2O_3 4.88±0.09 %
Eu 0.61±0.03 µg/g	Sb 24±3 µg/g	FeO 1.19±0.07 %
F 1250±39 µg/g	Sc 5.1±0.4 µg/g	MgO 0.47±0.08 %
Ga 14.1±0.5 µg/g	Se 0.25±0.03 µg/g	CaO 1.16±0.05 %
Gd 4.4±0.4 µg/g	Sm 5.0±0.4 µg/g	Na_2O 0.44±0.03 %
Ge 1.87±0.13 µg/g	Sn 54±5 µg/g	K_2O 2.91±0.04 %
Hf 8.3±1.0 µg/g	Sr 24±3 µg/g	H_2O^+ 2.15±0.10 %
Hg 0.056±0.006 µg/g	Ta 3.2±0.3 µg/g	L.O.I.* 2.62±0.14 %

Indicative values for Au, CO_2, C org. TC

* Loss on Ignition

Sediments

Code	Product	Unit
NIM-GBW07317	Stream sediment - Trace elements and oxides (NCS DC73373) Certified values	70 g

Ag 0,026±0,005 µg/g	Ho 0,33±0,02 µg/g	Ti 0,137±0,013 %
As 2±0,2 µg/g	La 24±4 µg/g	Tm 0,13±0,02 µg/g
B 5,3±0,5 µg/g	Li 7,3±0,8 µg/g	U 0,7±0,2 µg/g
Ba 690±50 µg/g	Lu 0,16±0,02 µg/g	V 20±5 µg/g
Be 0,96±0,05 µg/g	Mn 218±30 µg/g	W 0,52±0,11 µg/g
Bi 0,057±0,012 µg/g	Mo 0,5±0,1 µg/g	Y 8,3±1,6 µg/g
Ce 42±3 µg/g	Nb 8,9±1,3 µg/g	Yb 0,99±0,15 µg/g
Cl -33± µg/g	Nd 14,7±1,6 µg/g	Zn 16±3 µg/g
Co 3,6±0,5 µg/g	P 167±11 µg/g	Zr 188±14 µg/g
Cs 1±0,1 µg/g	Pb 13±3 µg/g	SiO2 80,6±0,2 %
Cu 11±2 µg/g	Pr 4,3±0,4 µg/g	Al_2O_3 9,7±0,2 %
Dy 1,56±0,15 µg/g	Rb 70±6 µg/g	TFe_2O_3 1,46±0,05 %
Er 0,98±0,12 µg/g	Sb 0,17±0,06 µg/g	MgO 0,24±0,03 %
Eu 0,38±0,04 µg/g	Sc 2,4±0,3 µg/g	CaO 0,34±0,03 %
Ga 11,2±0,8 µg/g	Se 0,039±0,012 µg/g	Na_2O 2,35±0,05 %
Gd 1,8±0,2 µg/g	Sm 2,3±0,2 µg/g	K_2O 3,9±0,1 %
Ge 1,2±0,1 µg/g	Sr 86±5 µg/g	L,O,I 1,07±0,13 %
Hf 4,5±0,3 µg/g	Tb 0,28±0,05 µg/g	
Hg 0,011±0,002 µg/g	Th 5,4±0,6 µg/g	

Indicative values for Cd, Cl, Cr, F, In, S, Ta, Tl, FeO, H_2O, CO_2

Code	Product	Unit
NIM-GBW07318	Stream sediment - Trace elements and oxides (NCS DC73374) Certified values	70 g

Ag 0.13±0.03 µg/g	La 54±3 µg/g	Ti(%) 1.44±0.06 %
As 18±2 µg/g	Li 24±2 µg/g	Tl -0.4± µg/g
B 27±3 µg/g	Lu 0.58±0.05 µg/g	Tm 0.6±0.04 µg/g
Ba 760±50 µg/g	Mn 1230±80 µg/g	U 3±0.3 µg/g
Be 5.7±0.5 µg/g	Mo 2.7±0.4 µg/g	V 190±20 µg/g
Bi 3±0.4 µg/g	Nb 72±5 µg/g	W 5.7±0.6 µg/g
Ce 109±8 µg/g	Nd 45±5 µg/g	Y 34±5 µg/g
Co 28±2 µg/g	Ni 87±9 µg/g	Yb 3.8±0.5 µg/g
Cr 243±14 µg/g	P 1000±50 µg/g	Zn 165±16 µg/g
Cs 4.3±0.6 µg/g	Pb 66±5 µg/g	Zr 520±20 µg/g
Cu 66±6 µg/g	Pr 11.8±0.8 µg/g	SiO_2 57.3±0.2 %
Dy 7±0.6 µg/g	Rb 87±6 µg/g	Al_2O_3 13.4±0.2 %
Er 4±0.4 µg/g	Sb 2.7±0.4 µg/g	TFe_2O_3 9.5±0.1 %
Eu 2.5±0.4 µg/g	Sc 18±3 µg/g	MgO 3.4±0.1 %
F 580±40 µg/g	Se -0.12± µg/g	CaO 3.5±0.1 %
Ga 25±2 µg/g	Sm 8.5±0.6 µg/g	Na_2O 2±0.1 %
Gd 7.6±0.8 µg/g	Sn -9± µg/g	K_2O 2.3±0.1 %
Ge 1.6±0.3 µg/g	Sr 216±6 µg/g	CO_2 -0.26± 5
Hf 13.6±0.4 µg/g	Ta 5±0.3 µg/g	L.O.I 5.64±0.33 %
Hg 0.034±0.006 µg/g	Tb 1.23±0.09 µg/g	
Ho 1.43±0.07 µg/g	Th 12.4±1.1 µg/g	

Indicative values for Cd, Cl, In, S, Se, Sn, Tl, FeO, H_2O^+, CO_2

Code	Product	Unit
NIM-GBW07322	Tibet sediment - Constituents (NCS DC70314) Certified values	60 g

Ag 0.06±0.01 µg/g	Ni 17.2±0.7 µg/g	Sm 5.55±0.33 µg/g
As 19.0±2.5 µg/g	P 441±10 µg/g	Eu 0.96±0.04 µg/g
Au* 0.9±0.2 µg/g	Pb 23.0±1.2 µg/g	Gd 4.88±0.25 µg/g
B 58.9±5.7 µg/g	Rb 104±2 µg/g	Tb 0.75±0.03 µg/g
Ba 341±10 µg/g	Sc 6.96±0.51 µg/g	Dy 4.24±0.20 µg/g
Be 2.13±0.14 µg/g	Sb 1.08±0.27 µg/g	Ho 0.86±0.07 µg/g
Bi 0.34±0.03 µg/g	Se 0.11±0.01 µg/g	Er 2.56±0.11 µg/g
Br 1.4±0.3 µg/g	Sn 3.1±0.4 µg/g	Tm 0.39±0.03 µg/g
Cd 0.15±0.01 µg/g	Sr 117.5±4.4 µg/g	Yb 2.53±0.08 µg/g
Cl 120±29 µg/g	Ta 1.3±0.1 µg/g	Lu 0.38±0.02 µg/g
Co 7.9±0.4 µg/g	Te (0.03) µg/g	Y 23.3±1.1 µg/g
Cr 36.2±1.9 µg/g	Th 12.7±0.6 µg/g	SiO_2 76.43±0.13 %
Cs 8.0±0.7 µg/g	Ti 0.276±0.008 %	Al_2O_3 10.60±0.05 %
Cu 13.3±0.7 µg/g	Tl 0.59±0.17 µg/g	Fe_2O_3(T) 3.29±0.04 %
F 444±12 µg/g	U 2.9±0.3 µg/g	MgO 0.72±0.03 %
Ga 13.6±0.6 µg/g	V 56.1±2.1 µg/g	CaO 1.27±0.03 %
Ge 1.30±0.15 µg/g	W 2.4±0.2 µg/g	Na_2O 1.47±0.04 %
Hf 6.5±0.8 µg/g	Zn 51.8±2.2 µg/g	K_2O 2.30±0.03 %
Hg 0.074±0.004 µg/g	Zr 220±11 µg/g	TiO_2 0.469±0.006 %
Li 40.1±1.0 µg/g	La 37.9±2.0 µg/g	MnO 0.067±0.002 %
Mn 517±16 µg/g	Ce 70.6±2.4 µg/g	P_2O_5 0.101±0.002 %
Mo 0.70±0.03 µg/g	Pr 7.86±0.39 µg/g	
Nb 15.2±0.6 µg/g	Nd 29.0±1.3 µg/g	

Code	Product	Unit
NIM-GBW07324	Tibet sediment - Constituents (NCS DC70316)	60 g

Certified values

Ag 0.07±0.01 µg/g	Ni 75.3±3.0 µg/g	Sm 8.11±0.54 µg/g
As 13.7±0.7 µg/g	P 571±28 µg/g	Eu 1.58±0.05 µg/g
Au 1.8±0.4 µg/g	Pb 24.0±1.7 µg/g	Gd 7.11±0.29 µg/g
B 56.1±6.4 µg/g	Rb 117±3 µg/g	Tb 1.08±0.05 µg/g
Ba 476±17 µg/g	Sc 11.7±1.0 µg/g	Dy 6.10±0.31 µg/g
Be 2.43±0.07 µg/g	Sb 1.10±0.13 µg/g	Ho 1.20±0.09 µg/g
Bi 0.30±0.02 µg/g	Se 0.16±0.02 µg/g	Er 3.54±0.17 µg/g
Br 1.9±0.4 µg/g	Sn 3.2±0.2 µg/g	Tm 0.54±0.03 µg/g
Cd 0.10±0.02 µg/g	Sr 113±3 µg/g	Yb 3.47±0.12 µg/g
Cl 56.7±7.0 µg/g	Ta 1.3±0.2 µg/g	Lu 0.52±0.03 µg/g
Co 14.7±0.7 µg/g	Te 0.05±0.02 µg/g	Y 32.7±1.9 µg/g
Cr 139±13 µg/g	Th 15.5±0.6 µg/g	SiO_2 68.50±0.13 %
Cs 13.7±0.8 µg/g	Ti 0.451±0.009 %	Al_2O_3 14.42±0.05 %
Cu 23.1±1.0 µg/g	Tl 0.67±0.11 µg/g	Fe_2O_3(T) 4.81±0.06 %
F 440±22 µg/g	U 2.5±0.6 µg/g	MgO 1.74±0.05 %
Ga 18.5±0.8 µg/g	V 87.7±3.6 µg/g	CaO 0.53±0.02 %
Ge 1.22±0.19 µg/g	W 2.3±0.2 µg/g	Na_2O 1.66±0.04 %
Hf 8.8±0.4 µg/g	Zn 80.9±2.9 µg/g	K_2O 2.66±0.06 %
Hg 0.043±0.002 µg/g	Zr 299±6 µg/g	TiO_2 0.753±0.012 %
Li 41.9±1.3 µg/g	La 48.2±3.2 µg/g	MnO 0.087±0.002 %
Mn 668±17 µg/g	Ce 93.4±4.6 µg/g	P_2O_5 0.134±0.003 %
Mo 0.83±0.07 µg/g	Pr 10.9±0.4 µg/g	
Nb 15.3±0.6 µg/g	Nd 41.9±1.9 µg/g	

NIM-GBW07325	Tibet sediment - Constituents (NCS DC70317)	60 g

Certified values

Ag 0.32±0.02 µg/g	Hg 0.034±0.004 µg/g	Th 17.5±0.5 µg/g
As 37.3±1.7 µg/g	Ho 0.83±0.06 µg/g	Ti 0.217±0.077 %
Au* 6.2±1.4 µg/g	La 37.9±1.8 µg/g	Tl 0.96±0.21 µg/g
B 30.0±2.8 µg/g	Li 29.7±0.7 µg/g	Tm 0.38±0.03 µg/g
Ba 369±15 µg/g	Lu 0.36±0.02 µg/g	U 3.4±0.2 µg/g
Be 2.67±0.11 µg/g	Mn 614±21 µg/g	V 45.7±1.9 µg/g
Bi 1.22±0.07 µg/g	Mo 6.6±0.4 µg/g	W 9.2±0.5 µg/g
Br 0.9±0.5 µg/g	Nb 12.0±0.4 µg/g	Y 23.0±1.3 µg/g
Cd 0.57±0.04 µg/g	Nd 29.0±1.5 µg/g	Yb 2.46±0.11 µg/g
Ce 72.0±2.1 µg/g	Ni 20.8±0.7 µg/g	Zn 116±4 µg/g
Cl 69.1±4.6 µg/g	P 389±23 µg/g	Zr 188±12 µg/g
Co 9.8±0.7 µg/g	Pb 127±11 µg/g	SiO_2 64.22±0.22 %
Cr 39.8±3.4 µg/g	Pr 7.89±0.39 µg/g	Al_2O_3 10.84±0.15 %
Cs 17.2±1.0 µg/g	Rb 141±3 µg/g	Fe_2O_3(T) 3.07±0.02 %
Cu 247±6 µg/g	Sb 4.44±0.44 µg/g	MgO 0.87±0.03 %
Dy 4.24±0.25 µg/g	Sc 6.5±0.7 µg/g	CaO 8.19±0.09 %
Er 2.47±0.12 µg/g	Se 0.19±0.02 µg/g	Na_2O 1.74±0.02 %
Eu 0.96±0.04 µg/g	Sm 5.39±0.24 µg/g	K_2O 2.86±0.03 %
F 424±6 µg/g	Sn 3.3±0.4 µg/g	TiO_2 0.366±0.008 %
Ga 14.4±1.3 µg/g	Sr 185±6 µg/g	MnO 0.079±0.003 %
Gd 4.90±0.22 µg/g	Ta 1.1±0.2 µg/g	P_2O_5 0.090±0.005 %
Ge 1.19±0.16 µg/g	Tb 0.76±0.03 µg/g	
Hf 5.7±0.7 µg/g	Te 0.21±0.04 µg/g	

NIM-GBW07326	Tibet sediment - Constituents (NCS DC70318)	60 g

Certified values

Ag 0.06±0.01 µg/g	Hf 6.7±0.7 µg/g	Tb 0.91±0.03 µg/g
As 18.0±0.7 µg/g	Hg 0.030±0.005 µg/g	Th 25.1±1.4 µg/g
Au 1.4±0.3 µg/g	Ho 0.97±0.07 µg/g	Ti 0.253±0.008 %
B 30.6±2.6 µg/g	La 47.8±2.8 µg/g	Tl 1.0±0.2 µg/g
Ba 437±12 µg/g	Li 36.6±0.8 µg/g	Tm 0.46±0.03 µg/g
Be 3.32±0.10 µg/g	Lu 0.44±0.02 µg/g	U 4.8±0.3 µg/g
Bi 0.49±0.03 µg/g	Mn 422±16 µg/g	V 52.5±1.6 µg/g
Br 0.9±0.4 µg/g	Mo 0.59±0.03 µg/g	W 4.1±0.3 µg/g
Cd 0.10±0.01 µg/g	Nb 14.7±0.5 µg/g	Y 26.5±0.8 µg/g
Ce 89.6±3.3 µg/g	Nd 35.8±0.9 µg/g	Yb 2.83±0.07 µg/g
Cl 207±7 µg/g	Ni 16.9±0.5 µg/g	Zn 54.1±1.8 µg/g
Co 6.7±0.4 µg/g	P 420±21 µg/g	Zr 225±9 µg/g
Cr 47.6±3.6 µg/g	Pb 35.8±1.3 µg/g	SiO_2 73.37±0.06 %
Cs 20.2±1.2 µg/g	Pr 9.78±0.42 µg/g	Al_2O_3 12.73±0.10 %
Cu 16.2±1.1 µg/g	Rb 180±3 µg/g	Fe_2O_3(T) 3.19±0.05 %
Dy 4.92±0.24 µg/g	Sb 0.84±0.12 µg/g	MgO 1.07±0.04 %
Er 2.90±0.16 µg/g	Sc 7.3±0.5 µg/g	CaO 1.32±0.04 %
Eu 1.07±0.04 µg/g	Se 0.05±0.01 µg/g	Na_2O 2.09±0.05 %
F 456±4 µg/g	Sm 6.62±0.36 µg/g	K_2O 3.56±0.09 %
Ga 16.3±0.8 µg/g	Sn 3.8±0.4 µg/g	TiO_2 0.422±0.012 %
Gd 5.83±0.23 µg/g	Sr 165±6 µg/g	MnO 0.055±0.002 %
Ge 1.33±0.13 µg/g	Ta 1.8±0.2 µg/g	P_2O_5 0.097±0.004 %

NIM-GBW08304	River sediment - Radioactive isotopes (NCS ZC76001A)	100 g

Certified values

^{60}Co 0.631 Bq/g	^{239}Pu + ^{240}Pu 0.0199 Bq/g	^{232}Th 0.0599 Bq/g
^{137}Cs 0.131 Bq/g	^{226}Ra 0.120 Bq/g	^{235}U 0.0197 Bq/g
^{40}K 0.415 Bq/g	^{90}Sr 0.197 Bq/g	^{238}U 0.394 Bq/g

Sediments

Code	Product	Unit
RTC-CNS301-50G	Trace Elements on Fresh Water Sediment	50 g

Lot 002462

Certified values

Ag	2.35 mg/kg	Hg	0.815 mg/kg
Al	10900 mg/kg	Mn	187 mg/kg
As	14.6 mg/kg	Mo	38.9 mg/kg
Ba	137 mg/kg	Ni	28.6 mg/kg
Cd	35.6 mg/kg	Sb	20.1 mg/kg
Co	26.3 mg/kg	Se	8.24 mg/kg
Cr	30.7 mg/kg	Sn	2.48 mg/kg
Cu	44.2 mg/kg	V	88.4 mg/kg
Fe	12400 mg/kg	Zn	89.0 mg/kg
COD	10.7 mg/kg	P (total)	0.348 g/kg
Nitrogen, Kjeldahl	0.627 g/kg		

Reference values

Be	26.1 mg/kg

Code	Product	Unit
RTC-CNS329-50G	PCBs and PBDEs on Fresh Water Sandy Loam Sediment	50 g

Lot 010432

Certified values

PCB 28	54.1 µg/kg	PCB (total)	1330 µg/kg
PCB 52	230 µg/kg	PBDE 47	149 µg/kg
PCB 101	390 µg/kg	PBDE 99	192 µg/kg
PCB 118	175 µg/kg	PBDE 100	108 µg/kg
PCB 138	226 µg/kg	PBDE 153	160 µg/kg
PCB 153	133 µg/kg	PBDE 154	108 µg/kg
PCB 180	104 µg/kg	PBDE 183	52.6 µg/kg

Reference values

PBDE 209	81.7 µg/kg

Code	Product	Unit
RTC-CRM015-50G	Trace Metals - Fresh Water Sediment 2	50 g

Lot FF15

Certified values

Al	9200 ± 976 mg/kg	K	2070 ± 127 mg/kg
As	6.60 ± 0.433 mg/kg	Mg	13600 ± 345 mg/kg
Ba	83.0 ± 3.31 mg/kg	Mn	183 ± 4.52 mg/kg
Ca	23500 ± 688 mg/kg	Na	401 ± 47.4 mg/kg
Co	6.04 ± 0.142 mg/kg	Ni	17.5 ± 0.520 mg/kg
Cr (total)	14.3 ± 1.44 mg/kg	Pb	15.0 ± 0.539 mg/kg
Cu	16.1 ± 0.585 mg/kg	V	22.1 ± 1.84 mg/kg
Fe	17100 ± 717 mg/kg	Zn	69.9 ± 2.82 mg/kg
Hg	0.221 ± 0.00619 mg/kg	Total cyanide	6.04 ± 0.774 mg/kg

Informational values

Ag	0.237 mg/kg	Se	0.800 mg/kg
B	8.60 mg/kg	Sn	<5.00 mg/kg
Bi	0.300 mg/kg	Tl	1.00 mg/kg
Cd	0.520 mg/kg	Ti	80.0 mg/kg
Mo	1.16 mg/kg		

Code	Product	Unit
RTC-CRM104-50G	PAH - Sediment 1	50 g

The certified values were determined by USEPA SW846 (3rd edition) Methods 3540A (Soxhlet extraction) and 8270C (Semivolatile organics by GC/MS).

Certified values

Lot 016136

Naphthalene	2790 µg/kg	2,4-Dimethylphenol	3020 µg/kg
Nitrobenzene	2470 µg/kg	Dimethyl phthalate	2740 µg/kg
1,2,4-Trichlorobenzene	9430 µg/kg	2,4-Dinitrophenol	3050 µg/kg
Acenaphthene	8580 µg/kg	2,4-Dinitrotoluene (2,4-DNT)	5060 µg/kg
Anthracene	5950 µg/kg	2,6-Dinitrotoluene (2,6-DNT)	5730 µg/kg
Benzo(a)anthracene	1690 µg/kg	Di-n-octyl phthalate	12600 µg/kg
Benzo(a)pyrene	3020 µg/kg	bis(2-Ethylhexyl) phthalate (DEHP)	10700 µg/kg
Benzo(b)fluoranthene	4740 µg/kg	Fluoranthene	453 µg/kg
Benzo(k)fluoranthene	1050 µg/kg	Fluorene	8660 µg/kg
4-Bromophenyl phenyl ether	1860 µg/kg	Hexachlorobenzene	5480 µg/kg
Butyl benzyl phthalate	1550 µg/kg	Hexachlorocyclopentadiene	6550 µg/kg
4-Chloro-3-methylphenol	2060 µg/kg	Isophorone	9060 µg/kg
bis(2-Chloroethoxy) methane	7090 µg/kg	2-Methyl-4,6-dinitrophenol	7920 µg/kg
bis(2-Chloroisopropyl) ether	6960 µg/kg	2-Methylnaphthalene	3400 µg/kg
2-Chloronapthalene	4450 µg/kg	2-Methylphenol (o-Cresol)	8190 µg/kg
2-Chlorophenol	8500 µg/kg	2-Methylphenol (p-Cresol)	7810 µg/kg
4-Chlorophenyl phenylether	10700 µg/kg	3+4-Methylphenol (m+p-Cresol)	9270 µg/kg
Dibenzofuran	7240 µg/kg	2-Nitrophenol	6590 µg/kg
Di-n-butyl phthalate	11700 µg/kg	4-Nitrophenol	6810 µg/kg
1,2-Dichlorobenzene	7210 µg/kg	n-Nitrosodimethylamine	1720 µg/kg
1,3-Dichlorobenzene	3900 µg/kg	n-Nitroso-di-n-propylamine	6510 µg/kg
1,4-Dichlorobenzene	2470 µg/kg	Phenanthrene	5570 µg/kg
Hexachlorobutadiene	5430 µg/kg	Phenol	7930 µg/kg
Hexachloroethane	4510 µg/kg	Pyrene	3040 µg/kg
2,6-Dinitrophenol	4060 µg/kg	2,4,5-Trichlorophenol	10100 µg/kg
Diethyl phthalate	2240 µg/kg		

Code	Product	Unit
RTC-CRM640-25G	VOCs - Sediment 2	25 g

Certified values

Lot 014727

Acetone	20200 µg/kg	Isopropylbenzene	4430 µg/kg
Benzene	4610 µg/kg	Methyl bromide	1410 µg/kg
Bromobenzene	3650 µg/kg	Methyl chloride	4400 µg/kg
Bromodichloromethane	7950 µg/kg	Methylene chloride	9130 µg/kg
Bromoform	7100 µg/kg	4-Methyl-2-pentanone (MIBK)	13900 µg/kg
2-Butanone (Methyl ethyl ketone, MEK)	18400 µg/kg	Methyl tert-butyl ether (MTBE)	5450 µg/kg
Carbon tetrachloride	8640 µg/kg	Naphthalene	6090 µg/kg
Chlorobenzene	3420 µg/kg	Styrene	6370 µg/kg
Chloroethane	2960 µg/kg	1,1,1,2-Tetrachloroethane	3220 µg/kg
1,2-Dibromo-3-chloropropane	7730 µg/kg	1,1,2,2-Tetrachloroethane	4110 µg/kg
Dibromochloromethane	2580 µg/kg	Toluene	2700 µg/kg
Dibromomethane	7010 µg/kg	1,2,4-Trichlorobenzene	3340 µg/kg
1,2-Dichlorobenzene	7440 µg/kg	1,1,1-Trichloroethane	7650 µg/kg
1,3-Dichlorobenzene	4020 µg/kg	Trichloroethene	7620µg/kg
1,4-Dichlorobenzene	2370 µg/kg	Trichlorofluoromethane	5340 µg/kg
1,1-Dichloroethane	6390 µg/kg	1,2,3-Trichloropropane	7330 µg/kg
1,2-Dichloroethane	8500 µg/kg	1,2,4-Trimethylbenzene	13700µg/kg
1,1-Dichloroethylene	7200 µg/kg	1,3,5-Trimethylbenzene	16300µg/kg
cis-1,2-Dichloroethylene	5460 µg/kg	Vinyl chloride	8370 µg/kg
trans-1,3-Dichloropropene	2370 µg/kg	m+p-Xylene	11500 µg/kg
trans-1,2-Dichloroethylene	6360 µg/kg	o-Xylene	2790 µg/kg
Ethylbenzene	5490 µg/kg	Xylene	14500 µg/kg
2-Hexanone	15800 µg/kg		

RTC-CRM016-50G	Trace Metals - Fresh Water Sediment 3	50 g

Lot BE016

Certified values

Al	8920 ± 657 mg/kg	Hg	0.158 ± 0.0219 mg/kg
As	7.76 ± 0.439 mg/kg	K	1960 ± 141 mg/kg
Ba	79.3 ± 2.82 mg/kg	Mg	13200 ± 332 mg/kg
Be	0.490 ± 0.0587 mg/kg	Mn	180 ± 3.65 mg/kg
Ca	23500 ± 688 mg/kg	Na	292 ± 15.7 mg/kg
Cd	0.470 ± 0.0761 mg/kg	Ni	16.7 ± 0.498 mg/kg
Co	5.96 ± 0.243 mg/kg	Pb	14.1 ± 0.657 mg/kg
Cr (total)	14.5 ± 1.36 mg/kg	V	22.5 ± 1.62 mg/kg
Cu	16.1 ± 0.585 mg/kg	Zn	69.7 ± 2.11 mg/kg
Fe	16800 ± 517 mg/kg		

Informational values

Trace metal acid digestion by Aqua Regia (NEN 57, NEN 64.. series)

Al	21900 mg/kg	Cr	33.3 mg/kg
Ba	128 mg/kg	K	4080 mg/kg
Cd	0.30 mg/kg		

Informational values

Trace metal acid digestion by USEPA 3050B

Ag	0.7 mg/kg	Si	347 mg/kg
B	13.0 mg/kg	Sr	61 mg/kg
Mo	0.97 mg/kg	Tl	4.6 mg/kg
Se	1.0 mg/kg		

Marine sediments

NIM-GBW07314	Offshore marine sediment - Trace elements and oxides (NCS DC75301)	75 g

Certified values

Cu	31 µg/g	Ni	34.3 µg/g	MgO	2.50 %
Pb	25 µg/g	Co	14.2 µg/g	K_2O	2.48 %
Zn	87 µg/g	Sr	150 µg/g	Na_2O	1.68 %
Cd	0.20 µg/g	Ba	425 µg/g	TiO_2	0.825 %
Cr	86 µg/g	SiO_2	61.91 %	P_2O_5	0.148 %
As	10. 3 µg/g	Al_2O_3	13. Jul %	MnO	0.096 %
Hg	0.048 µg/g	Fe_2O_3(T)	5.36 %	Org.C	0.50 %
Se	0.16 µg/g	CaO	4.31 %	CO_3^{2-}	4.70 %

Indicative values for Ga, Mo, B, Zr, La, Ce, Nd, Sm, Eu, Tb, Ho, Yb, Lu, Y, Pr, Gd, Dy, Er, Tm, Rb, Sc, Th, V, Nb, Ta, Hf, Cs, W, Sb, U

Sediments

Code	Product	Unit
NIM-GBW07316	Offshore marine sediment - Trace elements and oxides (NCS DC75305) Certified values	50 g

SiO_2	31,6 %	Br	125 µg/g	Nd	51 µg/g
Al_2O_3	7,7 %	Ce	55 µg/g	Ni	108 µg/g
Fe_2O_3(t)	3,81 %	Co	53 µg/g	Pb	22 µg/g
MnO	0,4 %	Cr	38 µg/g	Pr	12 µg/g
MgO	2,04 %	Cs	4,5 µg/g	Rb	50 µg/g
CaO	22,6 %	Cu	231 µg/g	Sb	1,3 µg/g
Na_2O	3,75 %	Dy	11 µg/g	Sc	15 µg/g
K_2O	1,61 %	Er	6,3 µg/g	Sm	12 µg/g
TiO_2	0,39 %	Eu	3 µg/g	Sr	667 µg/g
P_2O_5	0,33 %	Ga	12 µg/g	Tb	2 µg/g
H_2O^+	-4 %	Gd	12 µg/g	Th	7 µg/g
CO_2	17,3 %	Hf	2,3 µg/g	Tm	0,96 µg/g
Cl	3,5 %	Hg	0,13 µg/g	U	1,1 µg/g
F	0,08 µg/g	Ho	2,4 µg/g	V	69 µg/g
As	4,6 µg/g	La	44 µg/g	W	4,1 µg/g
B	84 µg/g	Li	35 µg/g	Y	69 µg/g
Ba	0,25 µg/g	Lu	0,89 µg/g	Yb	5,8 µg/g
Be	1,5 µg/g	Mo	5,7 µg/g	Zn	142 µg/g
Bi	0,57 µg/g	Nb	6,9 µg/g	Zr	94 µg/g

RTC-CLNSED2-100G	Clean Sediment #2		100 g
	Metals analysis		
Al	3540 mg/kg	K	5.72 meq/L
As	2.0 mg/kg	Mg	228 meq/L
Ba	50 mg/kg	Mn	97.3 mg/kg
Ca	20.5 meq/L	Na	38.7 meq/L
Cation exchange capacity	13.9 meq/100g	Se	0.40 mg/kg
Fe	3160 mg/kg	V	16.0 mg/kg
Hg	0.03 mg/kg	Zn	21.3 mg/kg
	Soil analysis		
Carbon (total)	1770 µg/g	Organic matter	1.85 %
Carbonate (total as $CaCO_3$)	4.6 %	pH	8.4 units
Conductivity (25°C)	14.9 mmhos/cm	Solids	86.0 %
Exchangable acidity	11.3 meq/100g	Sulfate (soluble in Water)	16700 mg/kg
Cation exchange capacity	13.9 meq/100g	Sulfur (total)	12.7 %
	Wet chemistry		
Nitrate as N, (soluble in water)	34.3 mg/kg	Phosphorus (extractable)	1.0 mg/kg
Nitrogen, ammonia (KCl)	4.7 mg/kg	Phosphorus (total)	0.02 %
Nitrogen, total Kjeldahl	0.13 %		
RTC-CLNSED2-250G	Clean Sediment #2, 250g		250 g
RTC-CRM015-50G	Trace Metals - Fresh Water Sediment 2		50 g
	Lot FF15		
	Certified values		
Al	9200 ± 976 mg/kg	K	2070 ± 127 mg/kg
As	6.60 ± 0.433 mg/kg	Mg	13600 ± 345 mg/kg
Ba	83.0 ± 3.31 mg/kg	Mn	183 ± 4.52 mg/kg
Ca	23500 ± 688 mg/kg	Na	401 ± 47.4 mg/kg
Co	6.04 ± 0.142 mg/kg	Ni	17.5 ± 0.520 mg/kg
Cr (total)	14.3 ± 1.44 mg/kg	Pb	15.0 ± 0.539 mg/kg
Cu	16.1 ± 0.585 mg/kg	V	22.1 ± 1.84 mg/kg
Fe	17100 ± 717 mg/kg	Zn	69.9 ± 2.82 mg/kg
Hg	0.221 ± 0.00619 mg/kg	Total cyanide	6.04 ± 0.774 mg/kg
	Informational values		
Ag	0.237 mg/kg	Se	0.800 mg/kg
B	8.60 mg/kg	Sn	<5.00 mg/kg
Bi	0.300 mg/kg	Tl	1.00 mg/kg
Cd	0.520 mg/kg	Ti	80.0 mg/kg
Mo	1.16 mg/kg		

WEPAL sediment reference matrials

WEPAL-SETOC-701	River clay - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-704	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-705	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-707	Marine sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-708	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-713	Marine sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-716	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-717	Marine sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-724	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g

Code	Product	Unit
WEPAL-SETOC-725	Soil cont, industrial area - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-728	Sandy soil - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-731	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-733	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-734	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-735	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-738	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-741	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-742	Clay soil - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-743	Soil from industrial area - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-745	Channel sludge - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-747	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-748	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-749	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-755	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	75 g
WEPAL-SETOC-756	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-757	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-760	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-766	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-769	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g
WEPAL-SETOC-770	Sediment - Organic compounds, inorganic composition (please ask for detailed information)	150 g

Soils

Code	Product	Unit
WEPAL-ISE-859	Channel sludge	100 g

Values are listed in the certificate for various methods. Presented below are real totals.

Consensus values

Al	54.4 g/kg	N (elementary)	8.34 g/kg
As	43.6 mg/kg	Na	3580 mg/kg
Ba	654 mg/kg	Ni	66.7 mg/kg
Ca	33.2 g/kg	P	4070 mg/kg
Cd	6.63 mg/kg	Pb	213 mg/kg
Co	15.4 mg/kg	S	12200 mg/kg
Cr	164 mg/kg	Si	213 g/kg
Cu	133 mg/kg	Sr	164 mg/kg
Fe	42.7 g/kg	Ti	3040 mg/kg
K	14900 mg/kg	V	88.2 mg/kg
Mg	8580 mg/kg	Zn	869 mg/kg
Mn	909 mg/kg		

Indicative values

C (elementary)	117 g/kg	Rb	93.0 mg/kg
Ce	53.4 mg/kg	Sb	3.22 mg/kg
Ga	13.9 mg/kg	Sn	24.8 mg/kg
Hg	1840 µg/kg	Th	8.36 mg/kg
La	29.3 mg/kg	Y	23.9 mg/kg
Mo	2.16 mg/kg	C	145 mg/kg
Nb	11.4 mg/kg		

Informative values

Ag	5.10 mg/kg	Li	57.6 mg/kg
B	54.7 mg/kg	Nd	25.1 mg/kg
Be	2.22 mg/kg	Sc	11.1 mg/kg
Bi	2.40 mg/kg	Se	1.11 mg/kg
Br	16.7 mg/kg	Tl	1.50 mg/kg
Cs	9.25 mg/kg	U	3.70 mg/kg
F	505 mg/kg	W	2.94 mg/kg
I	6.35 mg/kg		

Code	Product	Unit

WEPAL-ISE-952 Clay — 100 g

Values are listed in the certificate for various methods. Presented below are real totals.

Consensus values

Al	95.1 g/kg	Nb	21.1 mg/kg
Ba	625 mg/kg	Nd	55.8 mg/kg
Be	3.25 mg/kg	Ni	60.6 mg/kg
Br	5.65 mg/kg	P	1340 mg/kg
C (elementary)	25.1 g/kg	Pb	24.7 mg/kg
Ca	7.59 g/kg	Rb	198 mg/kg
Ce	131 mg/kg	S	222 mg/kg
Co	29.7 mg/kg	Sb	0.560 mg/kg
Cr	115 mg/kg	Sc	19.5 mg/kg
Cu	57.2 mg/kg	Si	249 g/kg
F	690 mg/kg	Sn	3.61 mg/kg
Fe	61.3 g/kg	Sr	99.6 mg/kg
Ga	25.5 mg/kg	Th	19.1 mg/kg
Hg	29.8 µg/kg	Ti	6200 mg/kg
K	19800 mg/kg	Tl	0.847 mg/kg
La	63.3 mg/kg	U	4.40 mg/kg
Li	41.4 mg/kg	V	135 mg/kg
Mg	12300 mg/kg	Y	44.0 mg/kg
Mn	1520 mg/kg	Zn	115 mg/kg
N (elementary)	1.70 g/kg	Zr	151 mg/kg
Na	4630 mg/kg		

Indicative values

As	4.71 mg/kg	I	1.70 mg/kg
B	20.5 mg/kg	Mo	1.06 mg/kg
Cd	0.139 mg/kg	W	2.49 mg/kg

Informative values

Ag	0.170 mg/kg	Ge	1.30 mg/kg
Bi	5.70 mg/kg	Pt	2.67 mg/kg
Cs	7.40 mg/kg	Se	1.40 mg/kg

WEPAL-ISE-998 Organic Ferrasol — 100 g

Values are listed in the certificate for various methods. Presented below are real totals.

Consensus values

Al	152 g/kg	Nb	10.7 mg/kg
As	8.71 mg/kg	Ni	17.1 mg/kg
Br	15.4 mg/kg	P	337 mg/kg
C (elementary)	18.5 g/kg	Pb	12.2 mg/kg
Ce	11.2 mg/kg	S	705 mg/kg
Cr	31.3 mg/kg	Sb	0.518 mg/kg
Cu	36.0 mg/kg	Sc	24.0 mg/kg
Fe	90.2 g/kg	Si	187 g/kg
Ga	33.3 mg/kg	Sn	2.96 mg/kg
Hg	215 µg/kg	Th	15.1 mg/kg
K	340 mg/kg	Ti	9410 mg/kg
Li	4.99 mg/kg	U	2.41 mg/kg
Mn	174 mg/kg	V	270 mg/kg
Mo	1.74 mg/kg	Zn	68.7 mg/kg
N (elementary)	1.65 g/kg	Zr	266 mg/kg

Indicative values

Be	0.472 mg/kg	Se	2.29 mg/kg
I	25.1 mg/kg	Sr	4.62 mg/kg
La	6.11 mg/kg	Y	4.66 mg/kg
Mg	531 mg/kg		

Informative values

Ag	0.0800 mg/kg	F	102 mg/kg
B	7.88 mg/kg	Ge	2.00 mg/kg
Ba	17.5 mg/kg	Na	126 mg/kg
Bi	3.00 mg/kg	Nd	4.20 mg/kg
Ca	0.145 g/kg	Pt	0.520 mg/kg
Cd	0.0850 mg/kg	Rb	3.04 mg/kg
Co	7.37 mg/kg	Tl	0.200 mg/kg
Cs	0.560 mg/kg	W	2.00 mg/kg

AGH S-1 Polish soil — 50 g

Collected from an agricultural region 150 km from Krakow, the soil is typical of a well used, but unpolluted, agricultural soil in central Europe.

Certified values

As	3.4 µg/g	Eu	0.6 µg/g	Sb	0.5 µg/g
Ca	2.6 mg/g	Fe	9.88 mg/g	Sc	4 µg/g
Cd	0.3 µg/g	K	12.05 mg/g	Th	7 µg/g
Ce	44µg/g	Mn	266 µg/g	Zn	35 µg/g
Co	3.9µg/g	Na	4.44 mg/g	Zr	620 µg/g
Cr	38 µg/g	Pb	15 µg/g	Rb	52 µg/g

Code	Product	Unit
NCS DC85102A-500	Soil - Available nutrients (NIM-GBW07413A)	500 g

Certified values

pH	8.15
Organic matter	13.2 g/kg
Total nitrogen	0.77 g/kg
Hydrolysable nitrogen	76 mg/kg
Available phosphorus ($NaHCO_3$ extraction)	23.3 mg/kg
Effective potassium	0.29 g/kg
Slowly available potassium	0.95 g/kg
Available sulfur ($CaCl_2$ extraction)	42 mg/kg
Available sulfur (phosphate extraction)	105 mg/kg
Available silicon	0.46 g/kg
Cation exchange capacity	12.8 cmol(+)/kg
Exchangeable magnesium	3.0 cmo(1/2Mg^{2+})/kg
Exchangeable sodium	0.26 cmol (Na^+)/kg
Exchangeable potassium	0.77 cmol (K^+)/kg
Available molybdenum	0.086 mg/kg
Available boron	0.55 mg/kg
Soluble fluorine	14.6 mg/kg

Soluble salt

Cl^-	0.022 g/kg
SO_4^{2-}	0.125 g/kg
Ca^{2+}	0.17 g/kg
Mg^{2+}	22 mg/kg
K^+	31 mg/kg
Na^+	29 mg/kg

DTPA extraction

Available copper	1.17 mg/kg
Available zinc	.1.08 mg/kg
Available iron	55 mg/kg
Available manganese	17.3 mg/kg
Available cadmium	0.040 mg/kg
Available lead	1.7 mg/kg
Available nickel	0.27 mg/kg
Available cobalt	0.13 mg/kg

Sodium nitrate extraction

Available copper	0.047 mg/kg

Code	Product	Unit
NCS DC85104A-500	Soil - Available nutrients (NIM-GBW07415A)	500 g

Certified values

pH	6.08
Organic matter	33.3 g/kg
Total nitrogen	1.97 g/kg
Hydrolysable nitrogen	165 mg/kg
Available phosphorus (NH_4F extraction)	1.5 mg/kg
Effective potassium	0.25 g/kg
Slowly available potassium	0.46 g/kg
Available sulfur (phosphate extraction)	76 mg/kg
Available silicon	0.52 g/kg
Cation exchange capacity	19 cmol(+)/kg
Exchangeable calcium	13 cmol ($1/2Ca^{2+}$)/kg
Exchangeable magnesium	3.98 cmo($1/2Mg^{2+}$)/kg
Exchangeable sodium	0.32 cmol (Na^{+})/kg
Exchangeable potassium	0.63 cmol (K^{+})/kg
Exchangeable manganese	43 mg/kg
Available molybdenum	0.112 mg/kg
Available boron	0.31 mg/kg
Soluble fluorine	4.1 mg/kg

Soluble salt

Cl^{-}	0.058 g/kg
SO_4^{2-}	0.236 g/kg
Ca^{2+}	0.128 g/kg
Mg^{2+}	33 mg/kg
K^{+}	24 mg/kg
Na^{+}	41 mg/kg

DTPA extraction

Available copper	5.8 mg/kg
Available zinc	1.14 mg/kg
Available iron	252 mg/kg
Available manganese	45 mg/kg
Available cadmium	0.137 mg/kg
Available lead	5.6 mg/kg
Available nickel	0.58 mg/kg
Available cobalt	0.34 mg/kg

Hydrochloric acid extraction

Available copper	6.8 mg/kg
Available zinc	3.1 mg/kg
Available iron	428 mg/kg
Available manganese	98 mg/kg
Available cadmium	0.174 mg/kg
Available lead	5.4 mg/kg
Available nickel	1.23 mg/kg
Available chromium	0.60 mg/kg
Available selenium	6.8 mg/kg

Sodium nitrate extraction

Available copper	0.066 mg/kg

Code	Product	Unit
NCS DC85106A-500	Soil - Available nutrients (NIM-GBW07417A)	500 g

Certified values

pH	6.80
Organic matter	38.5 g/kg
Total nitrogen	2.11 g/kg
Hydrolysable nitrogen	155 mg/kg
Available phosphorus ($NaHCO_3$ extraction)	90 mg/kg
Effective potassium	0.162 g/kg
Slowly available potassium	0.33 g/kg
Available sulfur (phosphate extraction)	105 mg/kg
Available silicon	0.37 g/kg
Cation exchange capacity	19.7 cmol(+)/kg
Exchangeable calcium	18.9 cmol ($1/2Ca^{2+}$)/kg
Exchangeable magnesium	2.82 cmo($1/2Mg^{2+}$)/kg
Exchangeable sodium	0.93 cmol (Na^+)/kg
Exchangeable potassium	0.41 cmol (K^+)/kg
Exchangeable manganese	128 mg/kg
Available molybdenum	0.14 mg/kg
Available boron	0.31 mg/kg
Soluble fluorine	11.4 mg/kg

Soluble salt

Cl^-	0.16 g/kg
SO_4^{2-}	0.335 g/kg
Ca^{2+}	0.166 g/kg
Mg^{2+}	25 mg/kg
K^+	18.7 mg/kg
Na^+	154 mg/kg

DTPA extraction

Available copper	10.3 mg/kg
Available zinc	2.1 mg/kg
Available iron	258 mg/kg
Available manganese	88 mg/kg
Available cadmium	0.20 mg/kg
Available lead	8.1 mg/kg
Available nickel	0.47 mg/kg
Available cobalt	0.43 mg/kg

Hydrochloric acid extraction

Available copper	10.6 mg/kg
Available zinc	6.6 mg/kg
Available iron	134 mg/kg
Available manganese	295 mg/kg
Available cadmium	0.30 mg/kg
Available lead	6.7 mg/kg
Available nickel	1.3 mg/kg
Available chromium	0.64 mg/kg
Available arsenic	0.094 mg/kg

Sodium nitrate extraction

Available copper	0.064 mg/kg

Code	Product	Unit
NCS DC85113	Soil - Available nutrients	500 g

Certified values

pH	6.14
Organic matter	34.5 g/kg
Total nitrogen	1.62 g/kg
Hydrolysable nitrogen	157 mg/kg
Available phosphorus (NH_4F extraction)	32 mg/kg
Effective potassium	0.36 g/kg
Slowly available potassium	0.98 g/kg
Available sulfur (phosphate extraction)	33 mg/kg
Available silicon	0.63 g/kg
Cation exchange capacity	31 cmol(+)/kg
Exchangeable calcium	22.5 cmol ($1/2Ca^{2+}$)/kg
Exchangeable magnesium	5.4 cmol ($1/2Mg^{2+}$)/kg
Exchangeable sodium	0.24 cmol (Na^+)/kg
Exchangeable potassium	0.94 cmol (K^+)/kg
Exchangeable manganese	80 mg/kg
Available molybdenum	0.13 mg/kg
Available boron	0.56 mg/kg
Soluble fluorine	2.9 mg/kg

Soluble salt

Cl^-	0.016 g/kg
SO_4^{2-}	0.109 g/kg
Ca^{2+}	0.080 g/kg
Mg^{2+}	19 mg/kg
K^+	18 mg/kg
Na^+	24 mg/kg

DTPA extraction

Available copper	2.6 mg/kg
Available zinc	2.3 mg/kg
Available iron	142 mg/kg
Available manganese	67 mg/kg
Available cadmium	0.048 mg/kg
Available lead	2.07 mg/kg
Available nickel	2.4 mg/kg
Available cobalt	0.39 mg/kg

Hydrochloric acid extraction

Available copper	1.08 mg/kg
Available zinc	3.6 mg/kg
Available iron	16.3 mg/kg
Available manganese	131 mg/kg
Available cadmium	0.053 mg/kg
Available lead	0.8 mg/kg
Available nickel	3.3 mg/kg
Available chromium	0.25 mg/kg
Available arsenic	0.018 mg/kg

Sodium nitrate extraction

Available copper	0.034 mg/kg
Available zinc	.0.068 mg/kg
Available nickel	0.047 mg/kg

Code	Product	Unit
NIM-GBW07418	Soil - Composition including trace elements (NCS DC87101)	100 g

Certified values

SiO_2	67.96 %	B	46 µg/g	Pb	28 µg/g
TiO_2	0.72 %	Ba	677 µg/g	Rb	111 µg/g
Al_2O_3	14.35 %	Be	2.4 µg/g	Sb	0.73 µg/g
Fe_2O_3	4.69 %	Co	15 µg/g	Sr	168 µg/g
MnO	0.093 %	Cr	93 µg/g	Te	0.033 µg/g
MgO	1.62 %	Cu	23 µg/g	Th	12 µg/g
CaO	0.9 %	F	458 µg/g	U	1.9 µg/g
Na_2O	1.78 %	Ga	17 µg/g	V	88 µg/g
K_2O	2.56 %	Hg	0.014 µg/g	W	1.8 µg/g
P_2O_5	0.1 %	La	43 µg/g	Y	24 µg/g
L.O.I	4.64 %	Li	37 µg/g	Zn	68 µg/g
N	0.035 %	Nb	15 µg/g	Zr	274 µg/g
As	10 µg/g	Ni	41 µg/g		

Code	Product	Unit
NIM-GBW07419	Soil - Composition including trace elements (NCS DC87102)	100 g

Certified values

SiO_2	67.21 %	S	0.034 %	Pb	21 µg/g
TiO_2	0.56 %	As	9.8 µg/g	Rb	86 µg/g
Al_2O_3	10.78 %	Ba	469 µg/g	Sb	0.83 µg/g
Fe_2O_3	2.28 %	Be	2 µg/g	Se	0.14 µg/g
MnO	0.066 %	Cl	600 µg/g	Sn	2.9 µg/g
MgO	1.73 %	Co	9.4 µg/g	Sr	197 µg/g
CaO	5.21 %	Cr	61 µg/g	Th	9.6 µg/g
Na_2O	1.95 %	Cu	12 µg/g	U	1.9 µg/g
K_2O	2.15 %	Ga	17 µg/g	V	63 µg/g
P_2O_5	0.15 %	Hg	0.031 µg/g	W	1.5 µg/g
H_2O^+	2.29 %	La	36 µg/g	Y	21 µg/g
CO_2	3.48 %	Li	27 µg/g	Zn	51 µg/g
L.O.I	6.73 %	Nb	12 µg/g	Zr	291 µg/g
N	0.064 %	Ni	23 µg/g		

Code	Product	Unit
NIM-GBW07420	Soil - Composition including trace elements (NCS DC87103) Certified values	100 g

SiO_2 72.92 %	Ba 524 µg/g	Rb 91 µg/g
TiO_2 0.69 %	Be 1.9 µg/g	Sb 0.65 µg/g
Al_2O_3 12.28 %	Co 12 µg/g	Se 0.11 µg/g
Fe_2O_3 3.38 %	Cr 56 µg/g	Sn 3.2 µg/g
MnO 0.072 %	Cu 23 µg/g	Sr 227 µg/g
MgO 1.14 %	F 383 µg/g	Th 10 µg/g
CaO 1.44 %	Ga 15 µg/g	U 1.9 µg/g
Na_2O 2.2 %	Hg 0.017 µg/g	V 74 µg/g
K_2O 2.16 %	La 38 µg/g	W 1.5 µg/g
P_2O_5 0.11 %	Li 28 µg/g	Y 22 µg/g
N 0.029 %	Nb 14 µg/g	Zn 48 µg/g
As 6.3 µg/g	Ni 22 µg/g	Zr 331 µg/g
B 50 µg/g	Pb 19 µg/g	

NIM-GBW07421	Soil - Composition including trace elements (NCS DC87104) Certified values	100 g

SiO_2 60.76 %	B 44 µg/g	Pb 19 µg/g
TiO_2 0.55 %	Ba 448 µg/g	Rb 82 µg/g
Al_2O_3 10.78 %	Be 1.8 µg/g	Sb 0.78 µg/g
Fe_2O_3 2.79 %	Bi 0.24 µg/g	Sn 2.4 µg/g
MnO 0.058 %	Cl 222 µg/g	Sr 296 µg/g
MgO 1.83 %	Co 9.2 µg/g	Th 9.4 µg/g
CaO 9.07 %	Cr 62 µg/g	U 1.8 µg/g
Na_2O 1.74 %	Cu 17 µg/g	V 65 µg/g
K_2O 2.01 %	F 559 µg/g	W 1.4 µg/g
P_2O_5 0.087 %	Ga 13 µg/g	Y 19 µg/g
CO_2 6.44 %	La 34 µg/g	Zn 45 µg/g
L.O.I 9.62 %	Li 38 µg/g	Zr 258 µg/g
N 0.02 %	Nb 11 µg/g	
As 9.4 µg/g	Ni 23 µg/g	

NIM-GBW07422	Soil - Composition including trace elements (NCS DC87105) Certified values	100 g

SiO_2 67.53 %	S 0.0092 %	Ni 22 µg/g
TiO_2 0.54 %	As 8.2 µg/g	Pb 20 µg/g
Al_2O_3 10.84 %	B 33 µg/g	Rb 83 µg/g
TFe_2O_3 -3.26 %	Ba 555 µg/g	Sb 0.7 µg/g
Fe_2O_3 2.64 %	Be 1.8 µg/g	Sn 2.2 µg/g
MnO 0.062 %	Bi 0.21 µg/g	Sr 231 µg/g
MgO 1.68 %	Co 8.9 µg/g	Th 8.9 µg/g
CaO 5.42 %	Cr 54 µg/g	U 2.4 µg/g
Na_2O 1.87 %	Cu 16 µg/g	V 66 µg/g
K_2O 2.18 %	F 657 µg/g	W 1.3 µg/g
P_2O_5 0.074 %	Ga 13 µg/g	Y 19 µg/g
CO_2 3.59 %	La 32 µg/g	Zr 298 µg/g
L.O.I 6.67 %	Li 25 µg/g	
N 0.021 %	Nb 11 µg/g	

NIM-GBW07427	Soil - Composition including trace elements (NCS ZC73004) Certified values	70 g

Ag 0.067±0.006 µg/g	Ho 0.92±0.03 µg/g	Tb 0.80±0.03 µg/g
As 10.6±0.8 µg/g	I 2.4±0.2 µg/g	Th 11.0±0.5 µg/g
B 54±3 µg/g	In 0.044±0.009 µg/g	Ti 0.382±0.011 %
Ba 500±15 µg/g	La 34±2 µg/g	Tl 0.52±0.05 µg/g
Be 1.90±0.05 µg/g	Li 31.5±1.5 µg/g	Tm 0.40±0.03 µg/g
Bi 0.29±0.02 µg/g	Lu 0.41±0.02 µg/g	U 2.19±0.12 µg/g
Br 4.0±0.4 µg/g	Mn 580±12 µg/g	V 74±2 µg/g
Cd 0.13±0.01 µg/g	Mo 0.48±0.03 µg/g	W 1.6±0.1 µg/g
Ce 66±3 µg/g	N 0.072±0.009 %	Y 24.5±0.7 µg/g
Cl 80±10 µg/g	Nb 14±1 µg/g	Yb 2.6±0.2 µg/g
Co 11.3±0.5 µg/g	Nd 30±2 µg/g	Zn 65±3 µg/g
Cr 65±2 µg/g	Ni 28.5±1.2 µg/g	Zr 257±9 µg/g
Cs 6.0±0.4 µg/g	P 833±35 µg/g	SiO_2 64.9±0.3 %
Cu 21.6±0.8 µg/g	Pb 21.6±1.2 µg/g	Al_2O_3 11.8±0.1 %
Dy 4.5±0.3 µg/g	Pr 7.9±0.5 µg/g	TFe_2O_3 4.11±0.4 %
Er 2.57±0.12 µg/g	Rb 91±3 µg/g	FeO 1.25±0.11 %
Eu 1.18±0.05 µg/g	Sb(DA) 0.86±0.06 µg/g	MgO 2.05±0.04 %
F 545±32 µg/g	Sc 10.5±0.3 µg/g	CaO 5.0±0.1 %
Ga 15.0±0.4 µg/g	Se 0.16±0.02 µg/g	Na_2O 1.86±0.07 %
Gd 4.9±0.3 µg/g	Sm 5.6±0.3 µg/g	K_2O 2.27±0.04 %
Ge 1.27±0.07 µg/g	Sn 3.3±0.4 µg/g	CO_2 3.34±0.14 %
Hf 7.0±0.5 µg/g	Sr 195±4 µg/g	Corg. 0.62±0.08 %
Hg 0.052±0.006 µg/g	Ta 1.02±0.09 µg/g	

Indicative values for S, Re, Sb, H_2O
Sb(DA) is result with aqua regia digestion

Code	Product	Unit
NIM-GBW07429	Soil - Composition including trace elements (NCS ZC73006) Certified values	70 g

Ag 0.15±0.02 µg/g	Ho 1.23±0.07 µg/g	Ta 1.52±0.15 µg/g
As 21.7±1.2 µg/g	I 2.3±0.2 µg/g	Tb 1.08±0.07 µg/g
B 63±2 µg/g	In 0.145±0.021 µg/g	Th 14.5±0.8 µg/g
Ba 716±16 µg/g	La 47±2 µg/g	Ti 0.527±0.020 %
Be 2.7±0.1 µg/g	Li 44±3 µg/g	Tl 0.67±0.04 µg/g
Bi 1.16±0.06 µg/g	Lu 0.54±0.02 µg/g	Tm 0.53±0.04 µg/g
Br 2.7±0.3 µg/g	Mn 963±20 µg/g	U 3.0±0.2 µg/g
Cd 0.21±0.02 µg/g	Mo 0.92±0.07 µg/g	V 119±3 µg/g
Ce 93±4 µg/g	N 0.094±0.010 %	W 2.8±0.2 µg/g
Cl 83±15 µg/g	Nb 18.6±1.3 µg/g	Y 33±2 µg/g
Co 17.6±0.7 µg/g	Nd 41±2 µg/g	Yb 3.5±0.2 µg/g
Cr 87±4 µg/g	Ni 41±1 µg/g	Zn 94±4 µg/g
Cs 8.9±0.4 µg/g	P 560±18 µg/g	Zr 272±8 µg/g
Cu 37±2 µg/g	Pb 38±2 µg/g	SiO_2 63.6±0.2 %
Dy 6.2±0.4 µg/g	Pr 10.3±0.8 µg/g	Al_2O_3 15.3±0.1 %
Er 3.4±0.2 µg/g	Rb 116±3 µg/g	TFe_2O3 6.44±0.07 %
Eu 1.56±0.06 µg/g	S 176±22 µg/g	FeO 1.06±0.15 %
F 652±48 µg/g	Sb(DA) 1.9±0.2 µg/g	MgO 1.80±0.06 %
Ga 20.5±1.0 µg/g	Sc 14.8±0.5 µg/g	CaO 1.53±0.04 %
Gd 6.8±0.5 µg/g	Se 0.31±0.02 µg/g	Na_2O 1.26±0.05 %
Ge 1.63±0.08 µg/g	Sm 7.8±03 µg/g	K_2O 2.36±0.04 %
Hf 7.6±0.4 µg/g	Sn 4.5±0.5 µg/g	Corg. 0.78±0.05 %
Hg 0.094±0.004 µg/g	Sr 115±4 µg/g	

Indicative values for Re, Sb, Te, H_2O^+, CO_2
Sb(DA) is result with aqua regia digestion

CAN-TILL-1	Soil These provisional values were assigned through an interlaboratory testing involving thirty-one laboratories. Summary of major and minor elements expressed as oxides below. Summary of total elements available on request.	100 g

SiO_2 60.9 %	K_2O 2.22 %
$Al2O_3$ 13.7 %	MnO 0.18 %
Fe_2O_2(Total) 6.82 %	TiO_2 0.98 %
MgO 2.15 %	P_2O_5 0.22 %
CaO 2.72 %	LOI (1000°C) 7.3 %
Na_2O 2.71 %	

CAN-TILL-3	Soil These provisional values were assigned through an interlaboratory testing involving thirty-one laboratories. Summary of major and minor elements expressed as oxides below. Summary of total elements available on request.	100 g

SiO_2 69.1 %	K_2O 2.42 %
Al_2O_3 12.2 %	MnO 0.06 %
Fe_2O_2(Total) 3.92 %	TiO_2 0.49 %
MgO 1.71 %	P_2O_5 0.11 %
CaO 2.63 %	LOI (1000°C) 4.6 %
Na_2O 2.64 %	

CAN-TILL-4	These provisional values were assigned through an interlaboratory testing involving thirty-one laboratories. Summary of major and minor elements expressed as oxides below. Summary of total elements available on request.	100 g

SiO_2 65.0 %	K_2O 3.25 %
Al_2O_3 14.4 %	MnO 0.06 %
Fe_2O_2(Total) 5.63 %	TiO_2 0.81 %
MgO 1.26 %	P_2O_5 0.20 %
CaO 1.25 %	LOI (1000°C) 5.7 %
Na_2O 2.46 %	

Code	Product	Unit
NCS DC73034	Soil - Trace elements and oxides Certified values	70 g

Ag 0.13±0.01 µg/g	Ge 1.83±0.10 µg/g	Sb 3.6±0.2 µg/g
As 28.5±2.0 µg/g	Hf 6.4±0.5 µg/g	Sc 16.3±0.4 µg/g
B 80±10 µg/g	Hg 0.143±0.013 µg/g	Se 0.44±0.05 µg/g
Ba 532±17 µg/g	Ho 1.27±0.08 µg/g	Sm 7.4±0.2 µg/g
Be 3.6±0.2 µg/g	I 1.2±0.3 µg/g	Sn 8.7±1.3 µg/g
Bi 1.53±0.08 µg/g	In 0.122±0.014 µg/g	Sr 51±3 µg/g
Br 1.8±0.3 µg/g	La 50±2 µg/g	Ta 1.8±0.4 µg/g
Cd 0.52±0.03 µg/g	Li 66±2 µg/g	Tb 1.11±0.03 µg/g
Ce 107±4 µg/g	Lu 0.59±0.04 µg/g	Th 21.0±1.1
Cl 41±6 µg/g	Mn 0.112±0.003%	Ti 0.51±0.02%
Co 18.2±0.5 µg/g	Mo 1.18±0.20 µg/g	Tl 1.20±0.10 µg/g
Cr 94±5 µg/g	N 0.143±0.009%	Tm 0.60±0.04 µg/g
Cs 19.6±0.7 µg/g	Nb 19.6±1.4 µg/g	U 5.2±0.3 µg/g
Cu 38±2 µg/g	Nd 43±2 µg/g	V 124±5 µg/g
Dy 6.3±0.4 µg/g	Ni 43±2 µg/g	W 23±1 µg/g
Er 3.7±0.2 µg/g	P 493±27 µg/g	Y 34±2 µg/g
Eu 1.38±0.03 µg/g	Pb 61±2 µg/g	Yb 4.8±0.4 µg/g
F 780±29 µg/g	Pr 11.0±0.3 µg/g	Zn 134±2 µg/g
Ga 25±1 µg/g	Rb 182±7 µg/g	Zr 225±13 µg/g
Gd 6.6±0.2 µg/g	S 281±21 µg/g	

SiO_2 61.04±0.23%	MgO 1.18±0.06%	K_2O 2.83±0.04%
Al_2O_3 18.10±0.15%	CaO 0.40±0.02%	Corg 1.15±0.08%
TFe_2O_3 6.50±0.09%	Na_2O 0.29±0.02%	TC 1.21±0.03%

NCS DC85105A-500	Soil - Available nutrients (NIM-GBW07416A) (Please ask for details)	500 g
NCS DC85114	Soil - Available nutrients (Please ask for details)	500 g
NCS DC85115	Soil - Available nutrients (Please ask for details)	500 g
NCS DC85116	Soil - Available nutrients (Please ask for details)	500 g
RTC-CLNSAND4-100G	Clean Sand #4 Metals analysis	100 g

Al 1400 mg/kg	Fe 257 mg/kg
Ba 5.2 mg/kg	Mn 40.1 mg/kg
Ca 5.8 meq/L	Zn 10.0 mg/kg
Cation exchange capacity 2.0 meq/100g	

Soil analysis

Carbon (total) 240 µg/g	Organic matter 0.21 %
Carbonate (total as $CaCO_3$) 1.5 %	pH 7.2 units
Conductivity (25°C) 0.67 mmhos/cm	Solids 99.7 %
Exchangeable acidity 9.9 meq/100g	Sulfate (soluble in Water) 19 mg/kg

Wet chemistry

Phosphorus (total) 0.01 %

RTC-CLNSAND4-250G	Clean Sand #4 250g	250 g
RTC-CLNSOIL1-100G	Clean Loam Soil #1 Lot CF001 Metals analysis reference values	100 g

Al 1400 mg/kg	Fe 2170 mg/kg
As 0.33 mg/kg	K (soluble) 0.65 meq/L
Ba 23.1 mg/kg	Mn 90.8 mg/kg
Ca (soluble) 5.8 meq/L	Mg 0.74 meq/L
Cation Exchange Capacity 2.0 meq/100g	Na (soluble) 0.26 meq/L
Co 0.33 mg/kg	Ni 2.3 mg/kg
Cr (total) 3.3 mg/kg	Pb 4.0 mg/kg
Cu 2.0 mg/kg	Zn 10.0 mg/kg

Soil analysis reference values

Carbon (total) 5620 µg/g	Organic matter 0.48 %
Carbonate as CaCO3 (total) 2.5 %	pH 7.5
Conductivity (25°C) 0.67 mmhos/cm	Solids 99.6 %
Exchangeable acidity 9.9 meq/100g	Sulfate (soluble) 130 mg/kg

Wet chemistry reference values

Nitrate as N (soluble) 1.2 mg/kg	P, extractable (AB-DTPA) 6.7 mg/kg
Nitrogen, ammonia (KCl) 2.0 mg/kg	P (total) 0.01 %

RTC-CLNSOIL1-250G	Clean Loam Soil #1, 250g	250 g

Code	Product	Unit
RTC-CLNSOIL2-100G	**Clean Soil #2** Lot CF002	100 g

Metals analysis reference values

Al	3540 mg/kg	Mn	97.3 mg/kg
As	2.0 mg/kg	Mg	228 meq/L
Ba	50.0 mg/kg	Na (soluble)	38.7 meq/L
Ca (soluble)	20.5 meq/L	Ni	2.3 mg/kg
Cation Exchange Capacity	13.9 meq/100g	Se	0.40 mg/kg
Fe	3160 mg/kg	V	16.0 mg/kg
Hg	0.03 mg/kg	Zn	21.3 mg/kg
K (soluble)	5.72 meq/L		

Soil analysis reference values

Carbon (total)	1770 µg/g	pH	8.4
Carbonate as CaCO3 (total)	4.6 %	Solids	86.0 %
Conductivity (25°C)	14.9 mmhos/cm	Sulfate (soluble)	16700 mg/kg
Exchangeable acidity	11.3 meq/100g	Sulfur (total)	12.7 mg/kg
Organic matter	1.85 %		

Wet chemistry reference values

Nitrate as N (soluble)	34.3 mg/kg	P, extractable (AB-DTPA)	1.0 mg/kg
Nitrogen, ammonia (KCl)	4.7 mg/kg	P (total)	0.02 %
Nitrogen (total Kjeldahl)	0.13 %		

RTC-CLNSOIL2-250G	**Clean Soil #2, 250g**	250 g
RTC-CLNSOIL3-100G	**Clean Soil #3** Lot CF003	100 g

Metals analysis reference values

Al	11000 mg/kg	Hg	0.31 mg/kg
As	2.0 mg/kg	K (soluble)	0.92 meq/L
Ba	204 mg/kg	Mn	577 mg/kg
Be	0.70 mg/kg	Mg	3.04 meq/L
Ca (soluble)	11.0 meq/L	Na (soluble)	0.48 meq/L
Cd	0.53 mg/kg	Ni	8.0 mg/kg
Co	9.3 mg/kg	Pb	17.3 mg/kg
Cr (total)	9.0 mg/kg	Se	0.30 mg/kg
Cu	9.7 mg/kg	V	17.4 mg/kg
Cation Exchange Capacity	14.7 meq/100g	Zn	112 mg/kg
Fe	27000 mg/kg		

Soil analysis reference values

Carbon (total)	45100 µg/g	pH	5.8
Carbonate as CaCO3 (total)	0.04 %	Solids	96.4 %
Conductivity (25°C)	1.27 mmhos/cm	Sulfate (soluble)	527 mg/kg
Exchangeable acidity	19.1 meq/100g	Sulfur (total)	0.02 %
Organic matter	5.96 %		

Wet chemistry reference values

Nitrate as N (soluble)	0.57 mg/kg	P, extractable (AB-DTPA)	14.3 mg/kg
Nitrogen, ammonia (KCl)	5.17 mg/kg	P (total)	0.09 %
Nitrogen (total Kjeldahl)	0.19 %		

RTC-CLNSOIL3-250G	**Clean Soil #3, 250g**	250 g
RTC-CLNSOIL5-100G	**Clean Clay #5** Lot 014530	100 g

Metals analysis reference values

Al	4400 mg/kg	Fe	1280 mg/kg
Ba	5.2 mg/kg	K (soluble)	0.92 meq/L
Ca (soluble)	5.8 meq/L	Mn	40 mg/kg
Cation Exchange Capacity	2.0 meq/100g	Zn	10.0 mg/kg

Soil analysis reference values

Carbon (total)	20 µg/g	Organic matter	0.1 %
Carbonate as CaCO3 (total)	3.5 %	pH	7.2
Conductivity (25°C)	0.67 mmhos/cm	Solids	99.7 %
Exchangeable acidity	9.9 meq/100g	Sulfate (soluble)	19 mg/kg

Wet chemistry reference values

P (total)	0.01 %

RTC-CLNSOIL5-250G	**Clean Clay Soil #5, 250g**	250 g

Code	Product	Unit
RTC-CRM005-50G	Trace Metals - Sewage Amended Soil Lot 019718	50 g

Aluminum, Al	12,900 ± 1480 mg/Kg
Antimony, Sb	64.3 ± 7.59 mg/Kg
Arsenic, As	38.6 ± 1.30 mg/Kg
Barium, Ba	826 ± 19.5 mg/Kg
Beryllium, Be	43.3 ± 1.02 mg/Kg
Boron, B	97.8 ± 2.97 mg/Kg
Cadmium, Cd	45.9 ± 1.03 mg/Kg
Calcium, Ca	23,000 ± 520 mg/Kg
Chromium, Cr (total)	59.9 ± 1.87 mg/Kg
Cobalt, Co	44.8 ± 1.22 mg/Kg
Copper, Cu	368 ± 7.16 mg/Kg
Iron, Fe	14,800 ± 357 mg/Kg
Lead, Pb	87.9 ± 2.13 mg/Kg
Lithium, Li	101 ± 6.43 mg/Kg
Magnesium, Mg	6,630 ± 176 mg/Kg
Manganese, Mn	192 ± 8.15 mg/Kg
Mercury, Hg	3.22 ± 0.134 mg/Kg
Molybdenum, Mo	33.5 ± 1.17 mg/Kg
Nickel, Ni	52.5 ± 1.44 mg/Kg
Potassium, K	6,440 ± 176 mg/Kg
Selenium, Se	28.4 ± 1.81 mg/Kg
Silicon, Si	539 ± 215 mg/Kg
Silver, Ag	30.6 ± 1.02 mg/Kg
Sodium, Na	2,500 ± 62.7 mg/Kg
Strontium, Sr	129 ± 5.31 mg/Kg
Thallium, Tl	42.1 ± 1.38 mg/Kg
Tin, Sn	105 ± 4.02 mg/Kg
Titanium, Ti	38.0 ± 5.54 mg/Kg
Vanadium, V	128 ± 3.40 mg/Kg
Zinc, Zn	584 ± 13.7 mg/Kg
pH	6.86 ± 0.207
Phosphorus, P	3,330 ± 151 mg/Kg

RTC-CRM018-50G	Trace Metals - Wet Sewage Sludge		50 g

Certified values

Ag	72.1 ± 4.23 mg/kg	K	2660 ± 249 mg/kg
Al	22400 ± 836 mg/kg	Mg	4300 ± 249 mg/kg
As	6.63 ± 1.08 mg/kg	Mn	200 ± 5.58 mg/kg
Ba	1100 ± 45.0 mg/kg	Mo	10.5 ± 1.53 mg/kg
Be	0.300 ± 0.0440 mg/kg	Na	1000 ± 86.0 mg/kg
Ca	49100 ± 1685 mg/kg	Ni	20.4 ± 1.18 mg/kg
Cd	5.57 ± 0.355 mg/kg	Pb	126 ± 3.42 mg/kg
Co	3.22 ± 0.403 mg/kg	Se	8.38 ± 1.54 mg/kg
Cu	840 ± 30.3 mg/kg	Sr	420 ± 18.1 mg/kg
Fe	9900 ± 707 mg/kg	V	39.2 ± 1.74 mg/kg
Hg	4.78 ± 0.663 mg/kg	Zn	1120 ± 50.4 mg/kg

Informational values

B	25.8 mg/kg	TOC	15.4 mg/kg
Sb	<2.0 mg/kg	Nitrogen, total Kjeldahl	2.6 wt%
Si	609 mg/kg	P (total)	2.29 wt%
Tl	<1.0 mg/kg	Solids (total)	55.3 wt%
Ammonia as N	7170 mg/kg		

RTC-CRM020-50G	Trace Metals - Sandy Loam 2 Lot D020		50 g

Certified values

Ag	38.5 ± 0.526 mg/kg	Hg	1.12 ± 0.0279 mg/kg
Al	1760 ± 86.4 mg/kg	Mg	2690 ± 28.2 mg/kg
As	400 ± 4.33 mg/kg	Mn	945 ± 7.43 mg/kg
Ba	24.8 ± 1.02 mg/kg	Ni	16.9 ± 0.402 mg/kg
Ca	25600 ± 846 mg/kg	Pb	5110 ± 50.8 mg/kg
Cd	15.4 ± 0.248 mg/kg	Se	6.57 ± 0.446 mg/kg
Co	4.51 ± 0.220 mg/kg	Tl	5.91 ± 0.301 mg/kg
Cu	729 ± 5.57 mg/kg	V	6.47 ± 0.427 mg/kg
Fe	192000 ± 4870 mg/kg	Zn	3010 ± 22.3 mg/kg

Informational values

K	857 mg/kg	Sr	24.7 mg/kg
Na	79.2 mg/kg	pH	2.96 units

Code	Product	Unit
RTC-CRM021-100G	Trace Metals - Sandy Loam 3	100 g

Lot E021

Certified values

Ag	6.50 ± 0.403 mg/kg	Fe	6480 ± 484 mg/kg
Al	2730 ± 184 mg/kg	Hg	4.70 ± 0.179 mg/kg
As	24.8 ± 2.46 mg/kg	K	1010 ± 39.3 mg/kg
Ba	586 ± 8.70 mg/kg	Mn	174 ± 6.02 mg/kg
Ca	5430 ± 154 mg/kg	Na	380 ± 27.2 mg/kg
Cd	1.20 ± 0.0893 mg/kg	Ni	12.6 ± 0.893 mg/kg
Cr (total)	10.7 ± 1.03 mg/kg	Zn	546 ± 16.8 mg/kg
Cu	4790 ± 216 mg/kg		

Informational values

Co	2.7 mg/kg	Sn	304 mg/kg
Pb	145000 mg/kg	Tl	0.6 mg/kg
Mg	2370 mg/kg	V	8.7 mg/kg

RTC-CRM022-20G	Trace Metals/Cyanide - Loam 5	20 g

Lot D522

Certified values

Al	10060± 334 mg/kg	K	3170 ± 106 mg/kg
As	5.40 ± 0.308 mg/kg	Mg	9524 ± 176 mg/kg
Ba	109 ± 1.51 mg/kg	Mn	318 ± 7.31 mg/kg
Be	0.500 ± 0.0140 mg/kg	Na	268 ± 7.83 mg/kg
Ca	27242 ± 541 mg/kg	Ni	15.8 ± 0.224 mg/kg
Cd	3.10 ± 0.0560 mg/kg	Pb	415 ± 77.2 mg/kg
Co	5.70 ± 0.0980 mg/kg	V	23.2 ± 0.700 mg/kg
Cr (total)	18.8 ± 0.546 mg/kg	Zn	45.7 ± 1.12 mg/kg
Cu	12.4 ± 0.252 mg/kg	Total cyanide	26.6 ± 0.630 mg/kg
Fe	13555 ± 362 mg/kg		

RTC-CRM023-50G	Trace Metals - Sandy Loam 7	50 g

Lot DG023

Certified values

Al	8470 ± 917 mg/kg	K	2230 ± 262 mg/kg
As	380 ± 6.70 mg/kg	Mg	3060 ± 156 mg/kg
Ba	75.5 ± 4.06 mg/kg	Mn	206 ± 7.38 mg/kg
Be	0.430 ± 0.0406 mg/kg	Na	296 ± 25.0 mg/kg
Ca	5420 ± 240 mg/kg	Ni	11.0 ± 0.565 mg/kg
Cd	0.920 ± 0.308 mg/kg	Pb	213 ± 6.97 mg/kg
Co	4.68 ± 0.206 mg/kg	Se	105 ± 3.04 mg/kg
Cr (total)	31.0 ± 2.23 mg/kg	Sr	32.6 ± 106 mg/kg
Cu	8.90 ± 0.521 mg/kg	Tl	111 ± 4.13 mg/kg
Fe	10700 ± 592 mg/kg	V	21.7 ± 2.18 mg/kg
Hg	77.8 ± 5.18 mg/kg	Zn	93.8 ± 4.77 mg/kg

Informational values

B	11.0 mg/kg	Si	353 mg/kg

RTC-CRM024-50G	Trace Metals - Loamy Sand 1	50 g

Lot II024

Certified values

Ag	13.3 ± 0.718 mg/kg	Hg	0.710 ± 0.0341 mg/kg
Al	8680 ± 981 mg/kg	K	2102 ± 162 mg/kg
As	3.42 ± 0.353 mg/kg	Mg	2945 ± 128 mg/kg
B	7.22 ± 0.783 mg/kg	Mn	199 ± 5.45 mg/kg
Ba	79.6 ± 2.80 mg/kg	Mo	0.580 ± 0.0805 mg/kg
Be	0.430 ± 0.0495 mg/kg	Na	287 ± 17.4 mg/kg
Ca	5530 ± 175 mg/kg	Ni	15.0 ± 1.65 mg/kg
Cd	2.15 ± 0.167 mg/kg	Pb	15.7 ± 1.43 mg/kg
Cr (total)	25.4 ± 3.25 mg/kg	Sr	35.4 ± 0.777 mg/kg
Cu	8.70 ± 0.409 mg/kg	V	20.8 ± 2.18 mg/kg
Fe	10196 ± 624 mg/kg	Zn	37.3 ± 1.92 mg/kg

Informational values

Sb	1.17 mg/kg	Si	404 mg/kg
Se	0.54 mg/kg	Tl	13.6 units

Code	Product	Unit
RTC-CRM025-50G	Trace Metals - Sandy Loam 8 Lot JG025 Certified values	50 g

Ag	132 ± 28.0 mg/kg	Hg	99.8 ± 10.7 mg/kg
Al	7640 ± 541 mg/kg	K	1990 ± 150 mg/kg
As	339 ± 17.3 mg/kg	Mg	4380 ± 172 mg/kg
Ba	1840 ± 375 mg/kg	Mn	173 ± 5.08 mg/kg
Be	0.330 ± 0.00 mg/kg	Na	313 ± 16.9 mg/kg
Ca	28300 ± 1536 mg/kg	Ni	12.2 ± 1.20 mg/kg
Cd	369 ± 15.7 mg/kg	Pb	1450 ± 68.7 mg/kg
Cr (total)	441 ± 17.0 mg/kg	Se	518 ± 25.0 mg/kg
Cu	7.76 ± 0.569 mg/kg	V	19.3 ± 1.52 mg/kg
Fe	9440 ± 416 mg/kg	Zn	51.8 ± 2.81 mg/kg

Informational values

Sb	<3.2 mg/kg	Sr	408 mg/kg
B	17.2 mg/kg	Tl	<4.8 mg/kg
Mo	<0.8 mg/kg		

RTC-CRM026-50G	Trace Metals - Sandy Loam 9	50 g

This soil is from a slightly contaminated site located in the Western United States. The following certified values were determined by USEPA SW846 (3rd edition) Methods 3050 and 6010, except for arsenic (7060A), mercury (7471) and selenium (7740). The sample is suitable for other 3000-series metals digestion procedures and 7000-series spectroscopic methods.

Certified values

Lot LRAA1192

Ag	57.2 mg/kg	Fe	5190 mg/kg	Sb	47.6 mg/kg
Al	6680 mg/kg	Hg	11.9 mg/kg	Se	93.9 mg/kg
As	175 mg/kg	K	5680 mg/kg	Sn	95.9 mg/kg
Ba	421 mg/kg	Li	81.6 mg/kg	Sr	203 mg/kg
Be	83.1 mg/kg	Mg	6260 mg/kg	Ti	41.3 mg/kg
Ca	4630 mg/kg	Mn	173 mg/kg	Tl	147 mg/kg
Cd	298 mg/kg	Mo	33.8 mg/kg	V	146 mg/kg
Cr (total)	219 mg/kg	Ni	70.6 mg/kg	Zn	641 mg/kg
Co	98.4 mg/kg	Pb	187 mg/kg	pH	7.96 units
Cu	204 mg/kg	S	322 mg/kg		

RTC-CRM027-50G	Trace Metals - Sandy Loam 10	50 g

This soil is from a moderately contaminated site located in the Western United States. The Reference Values were determined by USEPA SW846 (3rd edition) Methods 3050B and 6010, except for mercury (Method 7471) and pH (method 9045).The sample is suitable for other 3000-series metals digestion procedures and 7000-series spectroscopic methods.

Certified values

Lot HC027

Ag	5.98 mg/kg	Co	4.70 mg/kg	Ni	10.5 mg/kg
Al	8537 mg/kg	Cu	9.87 mg/kg	Pb	51.9 mg/kg
As	12.4 mg/kg	Fe	11173 mg/kg	Sb	3.28 mg/kg
Ba	166 mg/kg	Hg	3.80 mg/kg	Se	14.0 mg/kg
Be	2.73 mg/kg	K	2115 mg/kg	Sr	43.0 mg/kg
Ca	5970 mg/kg	Mg	2755 mg/kg	V	21.4 mg/kg
Cd	12.0 mg/kg	Mn	259 mg/kg	Zn	51.3 mg/kg
Cr	26.9 mg/kg	Na	241 mg/kg		

Indicative values for B, Mo, Si ,Tl

RTC-CRM028-50G	Trace Metals - Sandy Loam 11	50 g

This soil is from a moderately contaminated site location in the Western United States.The Reference Values were determined by USEPA SW846 (3rd edition) Methods 3050 and 6010, except for mercury (Method 7471) and pH (method 9045). The sample is suitable for other 3000-series metals digestion procedures and 7000-series spectroscopic methods.

Certified values

Lot IH028

Al	7562 mg/kg	Cr	19.0 mg/kg	Mn	209 mg/kg
As	3.83 mg/kg	Co	4.3 mg/kg	Na	231 mg/kg
Ba	73.2 mg/kg	Cu	8.51 mg/kg	Ni	11.0 mg/kg
Be	0.38 mg/kg	Fe	10000 mg/kg	Pb	10.4 mg/kg
Ca	5883 mg/kg	K	2045 mg/kg	V	19.2 mg/kg
Cd	0.50 mg/kg	Mg	2995 mg/kg	Zn	75.0 mg/kg

Indicative values for B, Si, Sr

Code	Product	Unit
RTC-CRM029-50G	Trace Metals - Sewage Sludge 2	50 g

Digested sewage sludge from a publicly owned treatment works (POTW), representative of a residential area with light industrial influence. The certified values were determined by USEPA SW846 (3rd edition) Methods 3050B and 6010B, except for Mercury (Method 7471). The sample is suitable for other 3000-series metals digestion procedures and 7000-series spectroscopic methods.

Certified values

Lot 013583

Ag 70.4 mg/kg	K 3370 mg/kg	Tl 44.9 mg/kg
Al 12400 mg/kg	Li 63.7 mg/kg	Ti 34.0 mg/kg
As 27.4 mg/kg	Mg 8280 mg/kg	V 41.5 mg/kg
Ba 1080 mg/kg	Mn 399 mg/kg	Zn 1400 mg/kg
Be 4.51 mg/kg	Mo 19.1 mg/kg	Ammonia as N 5450 mg/kg
B 186 mg/kg	Na 1650 mg/kg	Kjeldahl nitrogen 4.07 Wt%
Ca 48400 mg/kg	Ni 172 mg/kg	Nitrate 11200 mg/kg
Cd 487 mg/kg	Pb 300 mg/kg	pH 7.10
Co 5.70 mg/kg	Sb 5.78 mg/kg	Phosphorus, total 2.21 Wt%
Cr 345 mg/kg	Se 25.4 mg/kg	Residue, total (TS) 91.5 Wt%
Cu 1100 mg/kg	Si 828 mg/kg	Residue, volatile 59.1 Wt%
Fe 20700 mg/kg	Sn 97.1 mg/kg	S 13600 mg/kg
Hg 6.13 mg/kg	Sr 647 mg/kg	Total organic carbon 28.3 Wt%

Code	Product	Unit
RTC-CRM030-50G	Trace Metals - Sandy Loam 2	50 g

This soil is from a moderately contaminated site location in the Western United States. The Reference Values were determined by USEPA SW846 (3rd edition) Methods 3050/3051 and 6010/6020, except for arsenic (7060A), mercury (7471A) and selenium (7740. The sample is suitable for other 3000-series metals digestion procedures and 7000-series spectroscopic methods.

Certified values

Lot JC030

Al 4810 mg/kg	Cu 5.68 mg/kg	Na 997 mg/kg
As 13.1 mg/kg	Fe 8320 mg/kg	Ni 6.63 mg/kg
Ba 56.1 mg/kg	Hg 6.13 mg/kg	Pb 7.13 mg/kg
Be 5.97 mg/kg	K 1480 mg/kg	Se 18.5 mg/kg
Ca 14200 mg/kg	Mg 2470 mg/kg	V 29.0 mg/kg
Cd 58.4 mg/kg	Mn 127 mg/kg	Zn 74.8 mg/kg
Cr (total) 43.8 mg/kg	Mo 8.78 mg/kg	

Informational values

Ag 0.04 mg/kg	F 29.4 mg/kg	Sr 54.4 mg/kg
B 5.29 mg/kg	Sb 2.32 mg/kg	pH 6.54 units
Cyanide 10.4 mg/kg	Si 169 mg/kg	

Code	Product	Unit
RTC-CRM033-50G	Trace Metals - Loamy Sand 10	50 g

This soil is from a moderately contaminated site location in the Western United States. The Reference Values were determined by USEPA SW846 (3rd edition) Methods 3050/3051 and 6010/6020, except for arsenic (7060A), mercury (7471A) and selenium (7740. The sample is suitable for other 3000-series metals digestion procedures and 7000-series spectroscopic methods.

Certified values

Lot 019390

Ag 73.5 mg/kg	Fe 5280 mg/kg	Pb 108 mg/kg
Al 8180 mg/kg	Hg 25.1 mg/kg	S 347 mg/kg
As 132 mg/kg	K 2660 mg/kg	Sb 49.3 mg/kg
B 120 mg/kg	Li 136 mg/kg	Se 80.5 mg/kg
Ba 132 mg/kg	Mg 2000 mg/kg	Si 860 mg/kg
Be 96.0 mg/kg	Mn 130 mg/kg	Sr 240 mg/kg
Ca 3210 mg/kg	Mo 46.1 mg/kg	V 148 mg/kg
Cd 122 mg/kg	Na 919 mg/kg	Zn 203 mg/kg
Cr (total) 63.2 mg/kg	Ni 284 mg/kg	pH 6.02 units
Cu 212 mg/kg	P 277 mg/kg	

Code	Product	Unit
RTC-CRM034-50G	Trace Metals - Loamy Sand 3	50 g

The values were determined by USEPASW846 (3rd edition) Methods 3050/3051, 6010/6020 except for arsenic (7060A), mercury (7471A) and selenium (7740). The sample is suitable for these and other similar methods.

Certified values

Lot 010579

Ag 78.8 mg/kg	Cr 227 mg/kg	Ni 73.7 mg/kg
Al 13600 mg/kg	Cu 94.7 mg/kg	Pb 103 mg/kg
As 82.3 mg/kg	Fe 6160 mg/kg	Se 92.4 mg/kg
B 87.7 mg/kg	Hg 24.2 mg/kg	Sr 76.0 mg/kg
Ba 375 mg/kg	K 3720 mg/kg	Tl 74.4 mg/kg
Be 47.7 mg/kg	Mg 4240 mg/kg	V 92.2 mg/kg
Ca 5820 mg/kg	Mn 269 mg/kg	Zn 334 mg/kg
Cd 142 mg/kg	Mo 15.5 mg/kg	
Co 37.7 mg/kg	Na 6330 mg/kg	

Code	Product	Unit

RTC-CRM042-50G Trace Metals - Loam 3 — 50 g

This soil is from a moderately contaminated site location in the Western United States. The Reference Values were determined by USEPA SW846 (3rd edition) Methods 3050/3051 and 6010/6020, except for arsenic (7060A), mercury (7471A) and selenium (7740. The sample is suitable for other 3000-series metals digestion procedures and 7000-series spectroscopic methods.

Certified values

Lot 013023

Ag 21.5 mg/kg	Cu 79.1 mg/kg	P 214 mg/kg
Al 7150 mg/kg	Fe 15200 mg/kg	Pb 133 mg/kg
As 129 mg/kg	Hg 24.0 mg/kg	Sb 43.9 mg/kg
B 79.2 mg/kg	K 3900 mg/kg	Se 38.8 mg/kg
Ba 129 mg/kg	Li 176 mg/kg	Si 975 mg/kg
Be 40.1 mg/kg	Mg 2930 mg/kg	Sr 333 mg/kg
Ca 14200 mg/kg	Mn 175 mg/kg	Tl 42.4 mg/kg
Cd 210 mg/kg	Mo 76.3 mg/kg	V 65.3 mg/kg
Co 67.4 mg/kg	Na 2030 mg/kg	Zn 717 mg/kg
Cr (total) 55.0 mg/kg	Ni 126 mg/kg	pH 6.07 units

RTC-CRM043-50G Trace Metals - Sandy Loam 6 — 50 g

The certified values were determined by USEPA SW846 (3rd edition) Methods 3050B/3051, 6010B, 6020, and 7000 series. The sample is suitable for these and other similar methods.

Certified values

Lot 016111

Al 19100 mg/kg	Fe 22500 mg/kg	Sn 196 mg/kg
Ag 87.7 mg/kg	Hg 27.2 mg/kg	Sr 357 mg/kg
As 190 mg/kg	K 5040 mg/kg	Ti 514 mg/kg
B 128 mg/kg	Mg 6640 mg/kg	Tl 140 mg/kg
Ba 690 mg/kg	Mn 789 mg/kg	V 127 mg/kg
Be 122 mg/kg	Mo 110 mg/kg	Zn 424 mg/kg
Ca 16600 mg/kg	Na 402 mg/kg	pH 5.67
Cd 223 mg/kg	Ni 176 mg/kg	Phosphorus, P 523 mg/kg
Co 146 mg/kg	Pb 143 mg/kg	Silica 1380 mg/kg
Cr 301mg/kg	Sb 40.6 mg/kg	
Cu 131 mg/kg	Se 144 mg/kg	

Indicative values for Si, pH

RTC-CRM044-50G Trace Metals - Silt Loam 1 — 50 g

The values were determined by using USEPA SW846 Method 7060A for arsenic, by using USEPA SW846 Method 7471B for mercury, and by using Aqua Regia Method for cadmium, chromium, copper, lead, nickel, and zinc.

Certified values

Lot CF044

Ag 114 mg/kg	Cu 64.0 mg/kg	Sb 106 mg/kg
Al 3540 mg/kg	Fe 3180 mg/kg	Se 81.1 mg/kg
As 52.3 mg/kg	Hg 9.70 mg/kg	Si 991 mg/kg
B 113 mg/kg	K 1480 mg/kg	Sn 93.5 mg/kg
Ba 145 mg/kg	Mg 8920 mg/kg	Sr 4520 mg/kg
Be 37.3 mg/kg	Mn 204 mg/kg	Ti 138 mg/kg
Ca 206000 mg/kg	Mo 14.5 mg/kg	Tl 65.3 mg/kg
Cd 71.6 mg/kg	Na 651 mg/kg	V 82.1 mg/kg
Co 50.6 mg/kg	Ni 87.1 mg/kg	Zn 136 mg/kg
Cr 88.5 mg/kg	Pb 77.8 mg/kg	pH 6.82

RTC-CRM045-50G Trace Metals - Silty Clay 1 — 50 g

The values were determined by using USEPA SW846 Method 7060A for arsenic, by using USEPA SW846 Method 7471B for Mercury, and by using Aqua Regia Method for cadmium, chromium, copper, lead, nickel, and zinc.

Certified values

Lot CF045

As 18.4 mg/kg	Cr 85.3 mg/kg	Pb 42.8 mg/kg
Cd 1.61 mg/kg	Hg 0.795 mg/kg	Zn 330 mg/kg
Co 13.5 mg/kg	Mn 292 mg/kg	
Cu 122 mg/kg	Ni 199 mg/kg	

RTC-CRM046-50G Trace Metals - Clay 1 — 50 g

The values were determined by using USEPA SW846 Method 7060A for arsenic, by using USEPA SW846 Method 7471B for Mercury, and by using Aqua Regia Method for cadmium, chromium, copper, lead, nickel, and zinc.

Certified values

Lot CF046

As 7.47 mg/kg	Cu 62.2 mg/kg	Ni 37.5 mg/kg
Cd 7.01 mg/kg	Pb 45.3 mg/kg	Zn 114 mg/kg
Cr 45,7 mg/kg	Mn 118 mg/kg	
Co 8.22 mg/kg	Hg 0.153 mg/kg	

Code	Product	Unit

RTC-CRM048-50G Trace Metals - Sand 1 — 50 g

The values were determined by USEPA SW846 (3rd edition) Methods 3050B/3051, 6010B, 6020, and 7000 series.

Certified values

Lot 017065

Ag 75.5 mg/kg	Cu 277 mg/kg	Sb 139 mg/kg
Al 12900 mg/kg	Fe 12300 mg/kg	Se 177 mg/kg
As 123 mg/kg	Hg 28.0 mg/kg	Sn 93.5 mg/kg
B 135 mg/kg	K 11300 mg/kg	Sr 213 mg/kg
Ba 235 mg/kg	Mg 7050 mg/kg	Ti 178 mg/kg
Be 76.8 mg/kg	Mn 1160 mg/kg	Tl 60.5 mg/kg
Ca 6430 mg/kg	Mo 138 mg/kg	V 101 mg/kg
Cd 140 mg/kg	Na 8270 mg/kg	Zn 724 mg/kg
Co 177 mg/kg	Ni 100 mg/kg	pH 6.82
Cr 239 mg/kg	Pb 86.9 mg/kg	Phosphorus, P 298 mg/kg

RTC-CRM051-50G Trace Metals - Clay 2 — 50 g

The values were determined by USEPA SW846 (3rd edition) Methods 3050B/3051, 6010B, 6020, and 7000 series. The sample is suitable for these and other similar methods.

Certified values

Lot 16485

Al 12600 mg/kg	Fe 6490 mg/kg	Si 453 mg/kg
Ag 29.1 mg/kg	Hg 4.08 mg/kg	Sn 218 mg/kg
As 79.4 mg/kg	K 7790 mg/kg	Sr 283 mg/kg
B 157 mg/kg	Mg 1440 mg/kg	Ti 177 mg/kg
Ba 391 mg/kg	Mn 408 mg/kg	Tl 192 mg/kg
Be 304 mg/kg	Mo 156 mg/kg	V 213 mg/kg
Ca 8320 mg/kg	Na 857 mg/kg	Zn 256 mg/kg
Cd 48.3 mg/kg	Ni 76 mg/kg	pH 4.34
Co 59.2 mg/kg	Pb 181 mg/kg	Phosphorus, P 414 mg/kg
Cr 171 mg/kg	Sb 105 mg/kg	Sulfur, S 471 mg/kg
Cu 327 mg/kg	Se 76.9 mg/kg	

RTC-CRM052-50G Trace Metals - Loamy Clay 1 — 50 g

The values were determined by Dutch standard methods (NEN 56..; 57..; 64..; and 66..; series) after total digestion using predominantly nitric/hydrochloric acid mixture (Aqua Regia) in pressurised microwave digester units. The sample is suitable for use by these, or other similar digestion and analytical procedures.

Certified values

Lot 015055

Ag 23.0 mg/kg	Mn 217 mg/kg
Al 9660 mg/kg	Mo 34.3 mg/kg
As 33.4 mg/kg	Ni 50.8 mg/kg
Ba 239 mg/kg	Pb 82.9 mg/kg
Be 46.0 mg/kg	Sb 37.9 mg/kg
B 90.5 mg/kg	Se 25.3 mg/kg
Cd 43.0 mg/kg	Si 667 mg/kg
Ca 2860 mg/kg	Na 319 mg/kg
Co 44.1 mg/kg	Sr 148 mg/kg
Cr 57.8 mg/kg	Sn 77.5 mg/kg
Cu 56.5 mg/kg	Tl 113 mg/kg
Fe 14700 mg/kg	Ti 43.2 mg/kg
Hg 2.40 mg/kg	V 107 mg/kg
K 2390 mg/kg	Zn 94.3 mg/kg
Li 101 mg/kg	pH 7.02
Mg 1690 mg/kg	

RTC-CRM055-50G Trace Metals - Sewage Sludge 4 — 50 g

The values were determined by USEPA SW846 3050(Nitric Acid/Hot Plate), 3051(Nitric Acid/Microwave), 7000 series(AA), 6010(ICP) and Dutch standard methods (NEN 56..; 57..; 64..; and 66..; series) after total digestion using predominantly nitric/hydrochloric acid mixture (Aqua Regia) in pressurised microwave digester units. The sample is suitable for use by these, or other similar digestion and analytical procedures.

Certified values

Lot 015148

Ag 64.7 mg/kg	Mo 133 mg/kg
Al 14800 mg/kg	Na 758 mg/kg
As 229 mg/kg	Ni 163 mg/kg
B 110 mg/kg	Pb 154 mg/kg
Ba 765 mg/kg	Sb 75.3 mg/kg
Be 167 mg/kg	Se 162 mg/kg
Ca 47200 mg/kg	Sn 148 mg/kg
Cd 60.6 mg/kg	Sr 445 mg/kg
Co 97.0 mg/kg	Tl 82.0 mg/kg
Cr 289 mg/kg	V 245 mg/kg
Cu 482 mg/kg	Zn 1240 mg/kg
Fe 20100 mg/kg	pH 7.16
Hg 12.5 mg/kg	Phosphorus (total) 2.14 Wt%
K 2420 mg/kg	Residue, total (TS) 86.4 Wt%
Mn 693 mg/kg	Residue-volatile 56.2 Wt%
Mg 9210 mg/kg	Sulfur 11500 mg/kg

Code	Product	Unit
RTC-CRM059-50G	Trace Metals - Loamy Clay 2	50 g

Certified values

Lot 010755

Antimony, Sb	86.0 mg/kg	Molybdenum, Mo	9.30 mg/kg
Arsenic, As	153 mg/kg	Nickel, Ni	75.5 mg/kg
Barium, Ba	138 mg/kg	Potassium, K	3720 mg/kg
Beryllium, Be	39.1 mg/kg	Selenium, Se	106 mg/kg
Boron, B	155 mg/kg	Silver, Ag	98.5 mg/kg
Cadmium, Cd	65.0 mg/kg	Sodium, Na	5710 mg/kg
Calcium, Ca	11700 mg/kg	Strontium, Sr	43.8 mg/kg
Chromium, Cr (total)	136 mg/kg	Thallium, Tl	81.1 mg/kg
Cobalt, Co	44.3 mg/kg	Tin, Sn	81.9 mg/kg
Copper, Cu	99.4 mg/kg	Titanium, Ti	14.3 mg/kg
Iron, Fe	21100 mg/kg	Vanadium, V	95.1 mg/kg
Lead, Pb	107 mg/kg	Zinc, Zn	428 mg/kg
Magnesium, Mg	1580 mg/kg	pH	6.83
Manganese, Mn	220 mg/kg	Aluminum, Al	7790 mg/kg
Mercury, Hg	9.72 mg/kg	Silicon, Si	508 mg/kg

RTC-CRM060-30G	Chromium VI - Clay	30 g

Chromium VI, Cr(VI) 176 ± 12.9 mg/kg

RTC-CRM061-30G	Chromium VI - Sandy Loam	30 g

Chromium VI, Cr(VI) 241 ± 9.00 mg/kg

RTC-CRM090-100G	Nutrients - Clay Soil	100 g

Lot 014687

Certified values

Ammonia as N	743 ± 35.2 mg/kg
Kjeldahl nitrogen, total (TKN)	2530 ± 104 mg/kg
Phosphorus, total	809 ± 79.5 mg/kg
Total organic carbon (TOC)	5280 ± 592 mg/kg

RTC-CRM091-100G	Nutrients - Sandy Loam	100 g

Lot 014104

Certified values

Ammonia as N	250 ± 21.6 mg/kg
Chemical oxygen demand (COD)	9160 ± 5420 mg/kg
Kjeldahl nitrogen, total (TKN)	1540 ± 119 mg/kg
Phosphorus, total	356 ± 49.5 mg/kg
Total organic carbon (TOC)	4130 ± 546 mg/kg

RTC-CRM092-100G	Nutrients - Sand	100 g

Lot 015409

Certified values

Ammonia as N	850 ± 44.2 mg/kg
Chemical oxygen demand (COD)	11800 ± 2820 mg/kg
Kjeldahl nitrogen, total (TKN)	2610 ± 121 mg/kg
Phosphorus, total	1030 ± 187 mg/kg
Loss on Ignition (550ºC)	6.51 ± 0.189 wt%
Total organic carbon (TOC)	5720 ± 651 mg/kg

RTC-CRM106-100G	BNAs - Sandy Loam 8	100 g

Soil contaminated with semi-volatile organic compounds, from the Western region of the United States. The sample was certified by USEPA SW846, 3rd edition extraction methods 3540A (Soxhlet), 3550 (sonication), and analysis method 8270A (Semivolatile organics by GC/MS). The sample is suitable for use by these and other similar methods.

Certified values

Lot CF106

Phenol	19.54 mg/kg	2,4-Dintrotoluene	29.31 mg/kg
Chlorophenol	17.76 mg/kg	2,6-Dinitrotoluene	16.64 mg/kg
4-Methylphenol	1.71 mg/kg	Pentachlorophenol	29.89 mg/kg
3-Nitroaniline	11.64 mg/kg	Phenanthrene	0.63 mg/kg
2,4-Dinitrophenol	3.90 mg/kg	Bis(2-ethylhexyl)phthalate	24.14 mg/kg
4-Nitrophenol	15.15 mg/kg		

Code	Product	Unit

RTC-CRM107-100G BNAs/Pesticides/Expl - Sandy Loam 9 — 100 g

PAH contaminated soil from a superfund site in the Western United States. The BNA values in the sample were certified by USEPA SW846, 3rd edition Extraction Methods 3540A/3541 (Soxhlet), 3550 (sonication), and analysis method 8270A (Semivolatile organics by GC/MS). The Organochlorine Pesticides and PCB values were certified using the same extraction methods and analysis method 8081 (pesticides by GC). The sample is suitable for these and other similar methods.

Certified values

Lot KG107

Acenaphthene	61.9 mg/kg	2,4-Dinitrotoluene	43.1 mg/kg
Bis(2-ethylhexyl)phthalate	38.5 mg/kg	Fluoranthene	19.2 mg/kg
2-Chlorophenol	37.5 mg/kg	Fluorene	30.8 mg/kg
2,4-D Acid	22.9 mg/kg	Hexachlorobenzene	42.9 mg/kg
4,4-DDD	11.1 mg/kg	Hexachloroethane	2.31 mg/kg
4,4-DDT	38.5 mg/kg	Lindane	34.3 mg/kg
2,4-DP	15.4 mg/kg	Naphthalene	36.8 mg/kg
Dalapon	8.09 mg/kg	2-Nitroaniline	15.1 mg/kg
Dibenzofuran	40.1 mg/kg	3-Nitroaniline	4,27 mg/kg
Dicamba	28.4 mg/kg	Nitrobenzene	35,0 mg/kg
2,4-Dichlorophenol	0.23 mg/kg	4-Nitrophenol	70.8 mg/kg
Dieldrin	10.8 mg/kg	2,4,5-T-Acid	15.0 mg/kg
2,4-Dinitrophenol	9.03 mg/kg	Pentachlorophenol	25.0 mg/kg

Indicative value for Aroclor 1248

RTC-CRM109-100G BNAs - Sandy Loam 1 — 100 g

Lot JG109

Naphthalene	1000 ± 105 µg/kg	Fluorene	3100 ± 223 µg/kg
Acenaphthene	4310 ± 399 µg/kg	Hexachlorobenzene	4150 ± 318 µg/kg
Dibenzofuran	2270 ± 196 µg/kg	2-Nitroaniline	6780 ± 623 µg/kg
2,4-Dinitrotoluene (2,4-DNT)	5240 ± 325 µg/kg	4-Nitrophenol	1670 ± 125 µg/kg
bis(2-Ethylhexyl) phthalate	8990 ± 653 µg/kg	Pentachlorophenol	7180 ± 1032 µg/kg

RTC-CRM110-100G BNAs - Sandy Loam 2 — 100 g

BNA contaminated soil from a site in the Western United States. The BNA values in the sample were certified by USEPA SW846, 3rd edition Extraction Methods 3540A/3541 (Soxhlet), 3550 (sonication), and analysis method 8270B (Semivolatile organics by GC/MS). The sample is suitable for use by these and other similar methods.

Certified values

Lot LG110

Acenaphthene	55.6 mg/kg	Hexachlorobenzene	71.3 mg/kg
Bis(2-ethylhexyl)phthalate	13.1 mg/kg	Hexachloroethane	8.79 mg/kg
2-Chlorophenol	21.4 mg/kg	Naphthalene	30.3 mg/kg
Dibenzofuran	47.8 mg/kg	2-Nitroaniline	46.3 mg/kg
2,4-Dinitrophenol	9.98 mg/kg	4-Nitrophenol	26.2 mg/kg
2,4-Dinitrotoluene	44.6 mg/kg	Nitrobenzene	15.1 mg/kg
2,6-Dinitrotoluene	19.4 mg/kg	Pentachlorophenol	27.1 mg/kg
Fluoranthene	11.8 mg/kg	Phenol	13.9 mg/kg
Fluorene	14.2 mg/kg		

Indicative value for 3-Nitroaniline

RTC-CRM111-100G BNAs - Sandy Loam 3 — 100 g

BNA contaminated soil from a site in the Rocky Mountain region of the United States. The BNA values in the sample were certified by USEPA SW846, 3rd edition Extraction Methods 3540A/3541 (Soxhlet), 3550 (sonication), and analysis method 8270A (Semivolatile organics by GC/MS). The sample is suitable for use by these and other similar methods.

Certified values

Lot IH111

Acenaphthene	21.3 mg/kg	Hexachloroethane	7.51 mg/kg
Bis(2-ethylhexyl)phthalate	36.0 mg/kg	Naphthalene	10.8 mg/kg
Dibenzofuran	6.91 mg/kg	2-Nitroaniline	30 mg/kg
2,4-Dinitrotoluene	33.7 mg/kg	3-Nitroaniline	5.85 mg/kg
2,6-Dinitrotoluene	15.4 mg/kg	Nitrobenzene	30.7 mg/kg
Fluoranthene	56.1 mg/kg	4-Dinitrophenol	8.70 mg/kg
Fluorene	21.4 mg/kg	Pentachlorophenol	22.0 mg/kg
Hexachlorobenzene	23.1 mg/kg		

RTC-CRM112-100G BNAs - Sandy Loam 10 — 100 g

Soil contaminated with phenols from a wood treatment site in the Rocky Mountain Region of the United States.The phenol values in the sample were certified by USEPA SW846,3rd edition Analysis Method 8041 which describes open-tubular, capillary column gas chromatography procedures for the analysis of phenols, using both single-column and dual column/dual-detector approches. The sample is suitable for these and other similar methods.

Certified values

Lot LH112

2-Chlorophenol	2.38 mg/kg	m & p Cresol	4.00 mg/kg
4-Chloro-3-methylphenol	4.94 mg/kg	2-Methyl-4,6-dinitrophenol	4.75 mg/kg
2,4-Dichlorophenol	2.53 mg/kg	Pentachlorophenol	5.05 mg/kg
2-Nitrophenol	4.33 mg/kg	Phenol	2.45 mg/kg
4-Nitrophenol	5.66 mg/kg		

Indicative value for 2,4-Dinitrophenol

Code	Product	Unit

RTC-CRM113-100G BNAs - Loamy Sand 1 — 100 g

BNA contaminated soil from a site in the Western region of the United States. The BNA values in the sample were certified by USEPA SW846, 3rd edition Extraction Methods 3540A/3541 (Soxhlet), 3550 (Sonication), and analysis method 8270C (Semivolatile Organics by GC/MS). The sample is suitable for use by these and other similar methods.

Certified values

Lot FI113

Bis(2-ethylhexyl)phthalate	0.97 mg/kg	Hexachlorobenzene	14.3 mg/kg
Benzo(b)fluoranthene	3.53 mg/kg	Hexachloroethane	1.65 mg/kg
Benzo(a)pyrene	3.17 mg/kg	4-Methylphenol	7.55 mg/kg
Chrysene	7.21 mg/kg	2-Nitroaniline	14.5 mg/kg
2,4-Dinitrophenol	1.64 mg/kg	3-Nitroaniline	0.98 mg/kg
2,4-Dinitrotoluene	16.0 mg/kg	Nitrobenzene	5.88 mg/kg
Fluoranthene	6.51 mg/kg	4-Nitrophenol	4.56 mg/kg
Fluorene	8.41 mg/kg	Pyrene	37.0 mg/kg

RTC-CRM114-100G BNAs - Loam 1 — 100 g

Soil contaminated with Semi-Volatile Organic compounds, from a site in the Western region of the United States. The Semi-VOA values in the sample were certified by USEPA SW846, 3rd edition Extraction Methods 3540C (Soxhlet extraction), 3550 (Sonication) and analysis method 8270C (Semivolatile organics by GC/MS). The sample is suitable for use by these and other similar methods.

Certified values

Lot II114

Benzo(a)anthracene	11.5 mg/kg	Hexachlorobenzene	77.1 mg/kg
Benzo(a)pyrene	33.8 mg/kg	Hexachloroethane	11.0 mg/kg
Benzo(ghi)perylene	6.68 mg/kg	1- and 2-Methylnaphthalene	61.3 mg/kg
2-Chlorophenol	30.7 mg/kg	3-Nitroaniline	29.2 mg/kg
2,4-Dichlorophenol	24.6 mg/kg	Nitrobenzene	29.9 mg/kg
2,4-Dinitrotoluene	30.2 mg/kg	4-Nitrophenol	45.4 mg/kg
Fluoranthene	54.4 mg/kg	Pentachlorophenol	30.9 mg/kg
Fluorene	25.4 mg/kg	Pyrene	9.2 mg/kg

RTC-CRM115-100G PAH - Loamy Sand 1 — 100 g

PAH contaminated soil from a site in the Western Region of the United States.

Certified values

Lot JC115

Acenaphthene	4.60 mg/kg	Fluoranthene	22.1 mg/kg
Benzo(a)anthracene	12.1 mg/kg	Fluorene	13.0 mg/kg
Benzo(b)Fluoranthene	0.930 mg/kg	Naphthalene	1.34 mg/kg
Chrysene	16.8 mg/kg	Phenanthrene	0.080 mg/kg
Dibenzofuran	10.6 mg/kg	Pyrene	7.66 mg/kg

Indicative values for Anthracene and Bis(2-ethylhexyl)phthalate

RTC-CRM119-100G BNAs - Sandy Loam 6 — 100 g

The certified values were determined by USEPA SW846 (3rd edition) Extraction Method 3540C (soxhlet) and 3550 (sonication), and Analysis Method 8270C (semivolatile organics by GC/MS). The sample is suitable for these and other similar methods.

Certified values

Lot BC119

Acenaphthene	4.77 mg/kg	2,4-Dimethylphenol	4.68 mg/kg
Acenaphthylene	4.52 mg/kg	Dimethylphthalate	9.73 mg/kg
Anthracene	3.90 mg/kg	Dioctylphthalate	5.73 mg/kg
Benzo(a)pyrene	6.43 mg/kg	Fluoranthene	5.70 mg/kg
Bis(2-ethylhexyl)	8.80 mg/kg	Fluorene	4.09 mg/kg
4-Bromophenyl-phenylether	10.3 mg/kg	Isophorone	4.46 mg/kg
Butylbenzylphthalate	14.2 mg/kg	2-Methyl-4,6-dinitrophenol	2.41 mg/kg
4-Chloro-3-methylphenol	7.65 mg/kg	2-Methylnaphthalene	11.6 mg/kg
2-Chloronaphthalene	7.26 mg/kg	2-Methylphenol	7.79 mg/kg
2-Chlorophenol	4.40 mg/kg	4-Methylphenol	8.47 mg/kg
4-Chlorophenyl-phenylether	9.87 mg/kg	Naphthalene	8.61 mg/kg
Chrysene	11.7 mg/kg	2-Nitroaniline	10.0 mg/kg
Dibenzofuran	4.12 mg/kg	2-Nitrophenol	7.09 mg/kg
1,3-Dichlorobenzene	3.79 mg/kg	4-Nitrophenol	3.47 mg/kg
1,4-Dichlorobenzene	2.35 mg/kg	Pentachlorophenol	7.50 mg/kg
2,4-Dichlorophenol	6.93 mg/kg	Phenanthrene	6.62 mg/kg
Diethylphthalate	4.73 mg/kg		

Indicative values for Carbazole, 2,6-Dichlorophenol, Di-n-butylphthalate and Phenol

Code	Product	Unit

RTC-CRM121-100G BNAs - Sandy Loam 7 — 100 g

BNA contaminated soil from a site in the Western United States. The certified values were determined by USEPA SW846 (3rd edition) Extraction Method 3540C (soxhlet) and 3550 (sonicaton), and Analysis Method 8270C (semivolatile organics by GC/MS). The sample is suitable for these and other similar methods.

Certified values

Lot BL121

Benzo(a)pyrene	5.34 mg/kg	Dimethylphthalate	7.38 mg/kg
Bis(2-ethylhexyl)phthalate	1.49 mg/kg	Di-n-butylphthalate	10.2 mg/kg
4-Bromophenyl phenylether	11.8 mg/kg	2,4-Dinitrotoluene	19.7 mg/kg
Butylbenzylphthalate	5.66 mg/kg	Fluoranthene	5.65 mg/kg
4-Chloro-3-methylphenol	8.80 mg/kg	Fluorene	5.42 mg/kg
2-Chloronaphthalene	8.17 mg/kg	Hexachlorobenzene	6.26 mg/kg
2-Chlorophenol	8.30 mg/kg	Isophorone	9.53 mg/kg
4-Chlorophenyl phenylether	9.37 mg/kg	2-Methyl-4,6-dinitrophenol	11.4 mg/kg
Chrysene	4.94 mg/kg	2-Methylphenol (o-Cresol)	9.65 mg/kg
Dibenzofuran	6.10 mg/kg	Naphthalene	8.63 mg/kg
1,2-Dichlorobenzene	4.19 mg/kg	Nitrobenzene	9.42 mg/kg
1,3-Dichlorobenzene	4.24 mg/kg	Phenanthrene	5.87 mg/kg
1,4-Dichlorobenzene	3.15 mg/kg	Phenol	9.60 mg/kg
2,4-Dichlorophenol	6.66 mg/kg	Pyrene	8.20 mg/kg
2,6-Dichlorophenol	12.9 mg/kg	1,2,4-Trichlorobenzene	6.79 mg/kg
Diethylphthalate	6.74 mg/kg	2,4,5-Trichlorophenol	6.98 mg/kg

Indicative values for Carbazole, 3-Methylphenol (m-Cresol) , 4-Methylphenol (p-Cresol)

RTC-CRM122-100G BNAs - Soil 1 — 100 g

Lot 013063

1,4-Dichlorobenzene	1,040 ± 127 µg/kg	4-Chlorophenyl phenylether	1,380 ± 127 µg/kg
Hexachlorobutadiene	3,290 ± 437 µg/kg	Chrysene	7,570 ± 500 µg/kg
Naphthalene	4,780 ± 475 µg/kg	Dibenzo(a,h)anthracene	6,610 ± 610 µg/kg
Nitrobenzene	2,660 ± 321 µg/kg	Dibenzofuran	3,900 ± 258 µg/kg
1,2,4-Trichlorobenzene	2,780 ± 358 µg/kg	Di-n-butyl phthalate	7,890 ± 1240 µg/kg
Acenaphthene	425 ± 67.1 µg/kg	2,4-Dichlorophenol	2,560 ± 250 µg/kg
Acenaphthylene	329 ± 32.2 µg/kg	bis(2-Ethylhexyl) phthalate	1,590 ± 218 µg/kg
Anthracene	759 ± 120 µg/kg	Diethyl phthalate	6,090 ± 914 µg/kg
Benzo(a)anthracene	6,180 ± 500 µg/kg	Dimethyl phthalate	5,170 ± 674 µg/kg
Benzo(a)pyrene	1,890 ± 284 µg/kg	Fluoranthene	6,200 ± 475 µg/kg
Benzo(b)fluoranthene	4,160 ± 262 µg/kg	Fluorene	5,670 ± 498 µg/kg
Benzo(g,h,i)perylene	7,270 ± 682 µg/kg	Indeno(1,2,3-cd) pyrene	6,340 ± 611 µg/kg
Benzo(k)fluoranthen	6,240 ± 398 µg/kg	2-Nitrophenol	3,570 ± 613 µg/kg
Butyl benzyl phthalate	3,070 ± 363 µg/kg	n-Nitroso-di-n-propylamine	3,880 ± 682 µg/kg
4-Chloro-3-methylphenol	3,660 ± 336 µg/kg	Phenanthrene	6,720 ± 567 µg/kg
bis(2-Chloroethoxy)methane	1,240 ± 170 µg/kg	Pyrene	1,550 ± 159 µg/kg
bis(2-Chloroisopropyl) ether	1,140 ± 115 µg/kg	2,4,5-Trichlorophenol	1,080 ± 131 µg/kg
2-Chloronaphthalene	3,290 ± 316 µg/kg		

RTC-CRM126-100G BNAs - Clay Loam 1 — 100 g

Certified values

Lot 010572

1,2-Dichlorobenzene	2.86 mg/kg	4-Chlorophenyl phenylether	8.33 mg/kg
1,3-Dichlorobenzene	2.57 mg/kg	Chrysene	2.37 mg/kg
Hexachlorobutadiene	1.66 mg/kg	Dibenzofuran	1.91 mg/kg
Hexachloroethane	0.450 mg/kg	Di-n-butyl phthalate	1.34 mg/kg
Naphthalene	0.610 mg/kg	2,4-Dichlorophenol	0.500 mg/kg
Nitrobenzene	6.03 mg/kg	Dimethyl phthalate	4.08 mg/kg
1,2,4-Trichlorobenzene	1.57 mg/kg	2,4-Dinitrotoluene (2,4-DNT)	0.880 mg/kg
Acenaphthene	4.25 mg/kg	Di-n-octyl phthalate	1.34 mg/kg
Anthracene	0.280 mg/kg	bis(2-Ethylhexyl) phthalate (DEHP)	4.88 mg/kg
Benzo(a)pyrene	0.630 mg/kg	Fluoranthene	0.120 mg/kg
Benzo(b)fluoranthene	0.610 mg/kg	Fluorene	1.45 mg/kg
Benzo(g,h,i)perylene	0.570 mg/kg	Hexachlorobenzene	0.620 mg/kg
Benzo(k)fluoranthene	0.720 mg/kg	Isophorone	6.12 mg/kg
Benzo(b+k)fluoranthene	1.29 mg/kg	2-Methyl-4,6-dinitrophenol	3.93 mg/kg
Benzyl alcohol	7.10 mg/kg	2-Methylphenol (o-Cresol)	2.57 mg/kg
4-Bromophenyl phenyl ether	10.6 mg/kg	3+4-Methylphenol (m+p-Cresol)	3.58 mg/kg
4-Chloro-3-methylphenol	0.650 mg/kg	4-Nitrophenol	5.83 mg/kg
4-Chloroaniline	0.580 mg/kg	Pentachlorophenol	0.380 mg/kg
2-Chloronaphthalene	3.89 mg/kg	Phenol	0.740 mg/kg
2-Chlorophenol	1.99 mg/kg	2,4,5-Trichlorophenol	2.26 mg/kg

RTC-CRM128-10G Nitroaromatics/Nitrosamin - Sandy Loam 1 — 10 g

Lot O34

Nitrobenzene	10.4 ± 0.0592 mg/kg	2-Nitrotoluene	16.1 ± 0.376 mg/kg
1,3-Dinitrobenzene (1,3-DNB)	12.4 ± 0.204 mg/kg	3-Nitrotoluene	18.4 ± 0.331 mg/kg
2,6-Dinitrotoluene (2,6-DNT)	8.82 ± 0.210 mg/kg		

Code	Product	Unit

RTC-CRM130-10G Nitroaromatics/Nitrosamine - Clay Loam 1 — 10 g

Lot 001963

Nitrobenzene	36.1 ± 2.97 mg/kg	2-Nitrotoluene	82.9 ± 2.13 mg/kg
2,4-Dinitrotoluene (2,4-DNT)	33.9 ± 0.741 mg/kg	3-Nitrotoluene	39.3 ± 1.04 mg/kg
2,6-Dinitrotoluene (2,6-DNT)	8.10 ± 0.173 mg/kg	4-Nitrotoluene	32.1 ± 0.876 mg/kg

RTC-CRM131-100G BNAs - Clay Loam 2 — 100 g

The values were determined by USEPA SW846 (3rd edition) Extraction Method 3540C (soxhlet) and 3550 (sonicaton), and Analysis Method 8270C (semivolatile organics by GC/MS). The sample is suitable for these and other similar methods.

Certified values

Lot 013243

1,2-Dichlorobenzene	1580 µg/kg	2,6-Dichlorophenol	959 µg/kg
1,3-Dichlorobenzene	1400 µg/kg	Diethyl phthalate	3950 µg/kg
1,4-Dichlorobenzene	502 µg/kg	Dimethyl phthalate	2970 µg/kg
Hexachloroethane	1180 µg/kg	2,4-Dichlorophenol	1550 µg/kg
Naphthalene	1200 µg/kg	2,4-Dinitrotoluene	1530 µg/kg
Nitrobenzene	1810 µg/kg	2,6-Dinitrotoluene	2340 µg/kg
Acenaphthene	260 µg/kg	Di-n-octyl phthalate	1990 µg/kg
Anthracene	389 µg/kg	Fluoranthene	3870 µg/kg
Benzo(a)anthracene	4060 µg/kg	Fluorene	5670 µg/kg
Benzo(a)pyrene	406 µg/kg	Hexachlorobenzene	1240 µg/kg
Benzo(b)fluoranthene	1560 µg/kg	Indeno(1,2,3-cd) pyrene	1840 µg/kg
Benzo(g,h,i)perylene	4720 µg/kg	2-Methyl-4,6-dinitrophenol	4250 µg/kg
Benzo(k)fluoranthene	3820 µg/kg	2-Methylnapthalene	1350 µg/kg
4-Bromophenyl phenyl ether	8732 µg/kg	2-Methylphenol (o-Cresol)	280 µg/kg
Butyl benzyl phthalate	2780 µg/kg	4-Nitrophenol	3550 µg/kg
bis(2-Chloroethoxy)methane	878 µg/kg	n-Nitroso-di-n-propylamine	2000 µg/kg
bis(2-Chlorophenyl)ether	1230 µg/kg	Pentachlorophenol	3190 µg/kg
2-Chlorophenol	3525 µg/kg	Phenanthrene	1900 µg/kg
4-Chlorophenyl phenyether	1180 µg/kg	Phenol	899 µg/kg
Chrysene	6790 µg/kg	Pyrene	1110 µg/kg
Dibenz(a,h) anthracene	4800 µg/kg	2,4,6-Trichlorophenol	5950 µg/kg
Dibenzofuran	4400 µg/kg		

RTC-CRM132-10G Nitroaromatics/Nitrosamines - Sediment 1 — 10 g

Lot LRAA0277

Nitrobenzene	3,520 ± 188 µg/Kg	4-Amino-2,6-dinitrotoluene	969 ± 51.8 µg/Kg
1,3-Dinitrobenzene (1,3-DNB)	2,710 ± 145 µg/Kg	RDX	2,150 ± 115 µg/Kg
2,4-Dinitrotoluene (2,4-DNT)	9,100 ± 406 µg/Kg	2-Nitrotoluene	5,150 ± 275 µg/Kg
2,6-Dinitrotoluene (2,6-DNT)	4,600 ± 246 µg/Kg	3-Nitrotoluene	8,360 ± 447 µg/Kg
Nitroglycerin	6,830 ± 365 µg/Kg	4-Nitrotoluene	3,500 ± 187 µg/Kg
2-Amino-4,6-dinitrotoluene	2,810 ± 150 µg/Kg	HMX	1,490 ± 79.9 µg/Kg

RTC-CRM133-10G Nitroaromatics/Nitrosamine - Clay Loam 2 — 10 g

Assigned values

Nitrobenzene	7.46 mg/Kg	2-Nitrotoluene	19.7 mg/Kg
1,3-Dinitrobenzene (1,3-DNB)	12.3 mg/Kg	3-Nitrotoluene	6.47 mg/Kg
2,4-Dinitrotoluene (2,4-DNT)	16.0 mg/Kg	4-Nitrotoluene	10.7 mg/Kg
2,6-Dinitrotoluene (2,6-DNT)	20.2 mg/Kg	2,4,6-Trinitrotoluene (2,4,6-TNT)	13.8 mg/Kg
4-Amino-2,6-dinitrotoluene (4-am-dnt)	1.83 mg/Kg	HMX	2.00 mg/Kg

RTC-CRM135-100G BNAs - Silty Clay 1 — 100 g

Certified values

Lot 010382

1,2-Dichlorobenzene	673 µg/kg	2-Chlorophenol	1670 µg/kg
1,3-Dichlorobenzene	329 µg/kg	4-Chlorophenyl phenylether	7620 µg/kg
1,4-Dichlorobenzene	163 µg/kg	Dibenzofuran	5100 µg/kg
Hexachlorobutadiene	155 µg/kg	Di-n-butyl phthalate	4600 µg/kg
Hexachloroethane	156 µg/kg	2,4-Dichlorophenol	1550 µg/kg
Naphthalene	640 µg/kg	2,4-Dimethylphenol	3270 µg/kg
Nitrobenzene	4370 µg/kg	Dimethyl phthalate	3780 µg/kg
1,2,4-Trichlorobenzene	1710 µg/kg	2,4-Dinitrophenol	2220 µg/kg
Acenaphthene	1390 µg/kg	Di-n-octyl phthalate	5140 µg/kg
Acenaphthylene	1210 µg/kg	Fluoranthene	328 µg/kg
Aniline	2310 µg/kg	Fluorene	3410 µg/kg
Anthracene	848 µg/kg	Isophorone	742 µg/kg
Benzo(a)anthracene	3520 µg/kg	2-Methyl-4,6-dinitrophenol	4280 µg/kg
Benzo(a)pyrene	347 µg/kg	2-Methylphenol (o-Cresol)	3500 µg/kg
Benzoic acid	1900 µg/kg	4-Methylpheno (p-Cresol)	5900 µg/kg
Benzyl alcohol	1560 µg/kg	3+4-Methylphenol (m+p-Cresol)	6830 µg/kg
4-Bromophenyl phenyl ether	5260 µg/kg	2-Nitroaniline	5090 µg/kg
Butyl benzyl phthalate	3130 µg/kg	3-Nitroaniline	4930 µg/kg
Carbazole	5400 µg/kg	4-Nitroaniline	1730 µg/kg
4-Chloro-3-methylphenol	602 µg/kg	2-Nitrophenol	3820 µg/kg
4-Chloroaniline	749 µg/kg	4-Nitrophenol	3680 µg/kg
bis(2-Chloroethyl) ether	694 µg/kg	Pentachlorophenol	3420 µg/kg
2-Chloronaphthalene	2030 µg/kg	Phenanthrene	2010 µg/kg

Code	Product	Unit

RTC-CRM136-100G BNAs - Clay 1 — 100 g

Certified values

Lot 010772

1,4-Dichlorobenzene	350 µg/kg	Dimethyl phthalate	3130 µg/kg
Hexachlorobutadiene	2010 µg/kg	2,4-Dinitrophenol	1600 µg/kg
Nitrobenzene	4670 µg/kg	2,6-Dinitrotoluene (2,6-DNT)	2510 µg/kg
1,2,4-Trichlorobenzene	698 µg/kg	Di-n-octyl phthalate	5250 µg/kg
Acenaphthene	173 µg/kg	bis(2-Ethylhexyl) phthalate (DEHP)	891 µg/kg
Anthracene	431 µg/kg	Fluoranthene	5350 µg/kg
Benzo(a)anthracene	838 µg/kg	Hexachlorobenzene	551 µg/kg
Benzo(b)fluoranthene	442 µg/kg	Hexachlorocyclopentadiene	3930 µg/kg
Benzo(k)fluoranthene	661 µg/kg	Indeno(1,2,3-cd) pyrene	425 µg/kg
Benzo(b+k)fluoranthene	1100 µg/kg	Isophorone	6070 µg/kg
4-Bromophenyl phenyl ether	6460 µg/kg	2-Methylnaphthalene	6190 µg/kg
Butyl benzyl phthalate	7470 µg/kg	4-Methylphenol (p-Cresol)	2940 µg/kg
Carbazole	1370 µg/kg	3+4-Methylphenol (m+p-Cresol)	3270 µg/kg
bis(2-Chloroethoxy)methane	6970 µg/kg	2-Nitrophenol	668 µg/kg
2-Chloronaphthalene	2640 µg/kg	4-Nitrophenol	2630 µg/kg
2-Chlorophenol	1200 µg/kg	n-Nitrosodi-n-propylamine	2630 µg/kg
Chrysene	927 µg/kg	Pentachlorophenol	2560 µg/kg
Dibenz(a,h) anthracene	458 µg/kg	Phenanthrene	973 µg/kg
Dibenzofuran	5160 µg/kg	Phenol	1200 µg/kg
Di-n-butyl phthalate	720 µg/kg	Pyrene	6620 µg/kg
2,4-Dichlorophenol	605 µg/kg	2,4,6-Trichlorophenol	3480 µg/kg
Diethyl phthalate	1470 µg/kg		

RTC-CRM137-10G Nitroaromatics/Nitrosamin - Loamy Sand 1 — 10 g

Certified using USEPA SW846, 3rd edition, method 8330 or by similar HPLC methods.

Certified values

Nitrobenzene	4.88 mg/kg	RDX	1.16 mg/kg
1,3-Dinitrobenzene (1,3-DNB)	1.72 mg/kg	2-Nitrotoluene	3.65 mg/kg
42,4-Dinitrotoluene (2,4-DNT)	4.62 mg/kg	3-Nitrotoluene	3.13 mg/kg
2,6-Dinitrotoluene (2,6-DNT)	1.57 mg/kg	HMX	1.96 mg/kg
2-Amino-4,6-dinitrotoluene	6.86 mg/kg	Tetryl	1.96 mg/kg
4-Amino-2,6-dinitrotoluene	3.10 mg/kg	2,4,6-Trinitrotoluene(2,4,6-TNT)	5.02 mg/kg

RTC-CRM138-10G Nitroaromatics/Nitrosamin - Silty Loam 1 — 10 g

Certified values

Nitrobenzene	7.06 mg/Kg	2-Nitrotoluene	6.85 mg/kg
2,4-Dinitrotoluene (2,4-DNT)	5.22 mg/kg	3-Nitrotoluene	6.09 mg/kg
2,6-Dinitrotoluene (2,6-DNT)	6.78 mg/kg	4-Nitrotoluene	7.89 mg/kg

RTC-CRM140-100G BNAs/PAH - Clay 3 — 100 g

Lot LRAA1235

1,2-Dichlorobenzene	5,410 ± 578 µg/Kg	bis(2-Ethylhexyl) phthalate	7,650 ± 500 µg/Kg
1,4-Dichlorobenzene	1,460 ± 181 µg/Kg	Diethyl phthalate	8,010 ± 569 µg/Kg
Hexachlorobutadiene	8,340 ± 833 µg/Kg	2,4-Dimethylphenol	5,800 ± 459 µg/Kg
Naphthalene	3,250 ± 327 µg/Kg	2,4-Dinitrophenol	6,180 ± 1520 µg/Kg
Acenaphthene	5,360 ± 404 µg/Kg	2,6-Dinitrotoluene (2,6-DNT)	4,400 ± 376 µg/Kg
Acenaphthylene	3,790 ± 326 µg/Kg	Di-n-octyl phthalate	7,910 ± 673 µg/Kg
Anthracene	3,160 ± 205 µg/Kg	Fluoranthene	4,990 ± 338 µg/Kg
Benzo(a)anthracene	1,190 ± 82.6 µg/Kg	Fluorene	4,610 ± 344 µg/Kg
Benzo(a)pyrene	2,950 ± 190 µg/Kg	Indeno(1,2,3-cd) pyrene	4,600 ± 357 µg/Kg
Benzo(b)fluoranthene	5,600 ± 410 µg/Kg	Isophorone	9,870 ± 993 µg/Kg
Benzo(g,h,i)perylene	994 ± 97.9 µg/Kg	2-Methyl-4,6-dinitrophenol	8,340 ± 1210 µg/Kg
Benzo(k)fluoranthene	4,400 ± 347 µg/Kg	2-Methylnaphthalene	2,320 ± 221 µg/Kg
Benzoic acid	2,230 ± 1160 µg/Kg	4-Methylphenol (p-Cresol)	5,150 ± 580 µg/Kg
4-Bromophenyl phenyl ether	5,840 ± 456 µg/Kg	3+4-Methylphenol (m+p-Cresol)	5,030 ± 579 µg/Kg
Butyl benzyl phthalate	8,370 ± 577 µg/Kg	2-Nitrophenol	6,860 ± 618 µg/Kg
4-Chloro-3-methylphenol	5,920 ± 491 µg/Kg	4-Nitrophenol	6,800 ± 889 µg/Kg
bis(2-Chloroisopropyl) ether	1,800 ± 221 µg/Kg	n-Nitrosodiphenylamine	6,420 ± 885 µg/Kg
2-Chlorophenol	5,960 ± 590 µg/Kg	Pentachlorophenol	4,210 ± 372 µg/Kg
4-Chlorophenyl phenylether	3,940 ± 321 µg/Kg	Phenanthrene	1,910 ± 140 µg/Kg
Chrysene	6,730 ± 448 µg/Kg	Phenol	4,230 ± 385 µg/Kg
Dibenzo(a,h)anthracene	1,350 ± 112 µg/Kg	Pyrene	8,360 ± 543 µg/Kg
Dibenzofuran	7,610 ± 535 µg/Kg	2,4,5-Trichlorophenol	7,430 ± 591 µg/Kg
2,4-Dichlorophenol	9,210 ± 821 µg/Kg	2,4,6-Trichlorophenol	9,010 ± 628 µg/Kg

Code	Product	Unit

RTC-CRM141-50G PAH - Loamy Clay 1 — 50 g

The organic sample is a soil containing extractable PAHs for analysis by 8100, 8270, 8310 or equivalent methods.

Certified values

Lot: 015161

Naphthalene	188 ± 40.3 µg/kg	Benzo(k)fluoranthene	253 ± 43.9 µg/kg
Acenaphthene	693 ± 174 µg/kg	Chrysene	316 ± 52.0 µg/kg
Acenaphthylene	176 ± 45.5 µg/kg	Dibenzo(a,h)anthracene	451 ± 70.4 µg/kg
Anthracene	393 ± 130 µg/kg	Fluoranthene	176 ± 40.3 µg/kg
Benzo(a)anthracene	409 ± 83.0 µg/kg	Fluorene	338 ± 111 µg/kg
Benzo(a)pyrene	198 ± 25.8 µg/kg	Indeno(1,2,3-cd)pyrene	394 ± 52.0 µg/kg
Benzo(b)fluoranthene	364 ± 48.6 µg/kg	Phenanthrene	719 ± 221 µg/kg
Benzo(g,h,i)perylene	618 ± 109 µg/kg	Pyrene	331 ± 62.0 µg/kg

RTC-CRM143-50G BNAs - Sandy Loam — 50 g

RTC-CRM171-100G PAH - Loamy Sand 2 — 100 g

Lot 013231

Naphthalene	223 ± 36.7 µg/kg	Benzo(k)fluoranthene	214 ± 26.8 µg/kg
Acenaphthene	133 ± 28.3 µg/kg	Chrysene	181 ± 15.6 µg/kg
Acenaphthylene	112 ± 24.3 µg/kg	Dibenzo(a,h)anthracene	44.7 ± 10.1 µg/kg
Anthracene	27.8 ± 7.81 µg/kg	Fluoranthene	213 ± 24.5 µg/kg
Benzo(a)anthracene	85.7 ± 9.63 µg/kg	Fluorene	131 ± 18.9 µg/kg
Benzo(a)pyrene	11.8 ± 1.45 µg/kg	Indeno(1,2,3-cd) pyrene	228 ± 38.2 µg/kg
Benzo(b)fluoranthene	138 ± 15.2 µg/kg	Phenanthrene	387 ± 33.9 µg/kg
Benzo(g,h,i)perylene	347 ± 82.0 µg/kg	Pyrene	177 ± 19.3 µg/kg

RTC-CRM172-100G PAHs - Sandy Loam Soil — 100 g

Lot 013043

Naphthalene	140 ± 38.4 µg/kg	Benzo(k)fluoranthene	62.6 ± 11.2 µg/kg
Acenaphthene	94.9 ± 24.7 µg/kg	Chrysene	154 ± 20.8 µg/kg
Acenaphthylene	55.6 ± 18.1 µg/kg	Dibenzo(a,h)anthracene	284 ± 30.5 µg/kg
Anthracene	17.7 ± 2.67 µg/kg	Fluoranthene	634 ± 82.4 µg/kg
Benzo(a)anthracene	303 ± 47.4 µg/kg	Fluorene	66.4 ± 11.2 µg/kg
Benzo(a)pyrene	33.9 ± 10.9 µg/kg	Indeno(1,2,3-cd) pyrene	179 ± 28.3 µg/kg
Benzo(b)fluoranthene	177 ± 25.4 µg/kg	Phenanthrene	168 ± 7.62 µg/kg
Benzo(g,h,i)perylene	452 ± 81.2 µg/kg	Pyrene	86.5 ± 13.0 µg/kg

RTC-CRM2003-50G Trace Metals - Taiwan Clay 1 — 50 g

The certified values were determined by using USEPA SW846 Method 7060A for Arsenic, by using USEPA SW846 Method 7471B for Mercury, and by using Aqua Regia Method for Cadmium, Chromium, Copper, Lead, Nickel, and Zinc.

Certified values

Lot A-21

Arsenic, As	20.7 mg/kg	Lead, Pb	44.1 mg/kg
Cadmium, Cd	1.66 mg/kg	Manganese, Mn	292 mg/kg
Chromium, Cr (total)	86.8 mg/kg	Mercury, Hg	0.865 mg/kg
Cobalt, Co	13.5 mg/kg	Nickel, Ni	206 mg/kg
Copper, Cu	126 mg/kg	Zinc, Zn	342 mg/kg

RTC-CRM2004-50G Trace Metals - Taiwan Clay 2 — 50 g

The certified values were determined by using USEPA SW846 Method 7060A for Arsenic, by using USEPA SW846 Method 7471B for Mercury, and by using Aqua Regia Method for Cadmium, Chromium, Copper, Lead, Nickel, and Zinc.

Certified values

Lot B-22

Arsenic, As	7.81 mg/kg	Lead, Pb	44.9 mg/kg
Cadmium, Cd	7.89 mg/kg	Manganese, Mn	118 mg/kg
Chromium, Cr (total)	47.1 mg/kg	Mercury, Hg	0.140 mg/kg
Cobalt, Co	8.22 mg/kg	Nickel, Ni	38.5 mg/kg
Copper, Cu	65.1 mg/kg	Zinc, Zn	118 mg/kg

RTC-CRM202-225G TCLP Metals - Sandy Loam 1 — 225 g

Collected from sites located in the Western United States and analysed for eight Toxicity Characteristic Leaching Procedure (TCLP) Metals. The samples were certified using method USEPA SW 846, 3rd edition, 1311, 6011 and 7000 series.

Certified values in the Method 1311 extract

Lot 000109

Ag	4.33 mg/L	Cd	21.4 mg/L	Pb	38.2 mg/L
As	1.70 mg/L	Cr	3.64 mg/L	Se	1.96 mg/L
Ba	4.51 mg/L	Hg	2.13 mg/L	Zn	0.449 mg/L

Code	Product	Unit
RTC-CRM204-225G	TCLP Metals - Sandy Loam 2 Collected from sites located in the Western United States and analysed for eight Toxicity Characteristic Leaching Procedure (TCLP) Metals. The samples were certified using method USEPA SW 846, 3rd edition, 1311, 6011 and 7000 series. Certified values Lot 000107 As ..... 0.5 mg/L Cr ..... 3.31 mg/L Cd ..... 14.8 mg/L Pb ..... 4.51 mg/L Indicative values for Ag, Ba, Hg, Se	225 g
RTC-CRM206-225G	TCLP Metals - Sandy Loam 3 Collected from sites located in the Western United States and analysed for eight Toxicity Characteristic Leaching Procedure (TCLP) Metals. The samples were certified using method USEPA SW 846, 3rd edition, 1311, 6011 and 7000 series. Certified values Lot 000117 Ag ..... 0.605 mg/L Cd ..... 8.20 mg/L Pb ..... 1.78 mg/L As ..... 11.7 mg/L Cr ..... 0.0747 mg/L Se ..... 20.3 mg/L Ba ..... 0.247 mg/L Hg ..... 1.17 mg/L	225 g
RTC-CRM207-225G	TCLP Metals - Loamy Sand 3 Collected from sites located in the Western United States and analysed for eight Toxicity Characteristic Leaching Procedure (TCLP) Metals. The samples were certified using method USEPA SW 846, 3rd edition, 1311, 6011 and 7000 series. Certified values Lot 000165 Ag ..... 0.965 mg/L Cd ..... 7.30 mg/L Pb ..... 2.54 mg/L As ..... 8.61 mg/L Cr ..... 0.762 mg/L Se ..... 21.1 mg/L Ba ..... 0.426 mg/L Hg ..... 0.0304 mg/L	225 g
RTC-CRM209-225G	TCLP Metals - Sandy Loam 11 Collected from sites located in the Western United States and analysed for six Toxicity Characteristic Leaching Procedure (TCLP) Metals. The samples were certified using method USEPA SW 846, 3rd edition, 1311, 6011 and 7000 series. Certified values Lot 000153 As ..... 12.3 mg/L Cd ..... 4.75 mg/L Pb ..... 31.3 mg/L Ba ..... 0.265 mg/L Cr ..... 0.243 mg/L	225 g
RTC-CRM210-225G	TCLP Metals - Sandy Loam 12 Collected from sites located in the Western United States and analysed for eight Toxicity Characteristic Leaching Procedure (TCLP) Metals. The samples were certified using method USEPA SW 846, 3rd edition, 1311, 6011 and 7000 series. Certified values Lot 000442 Ag ..... 0.12 mg/L Cd ..... 6.50 mg/L Pb ..... 133 mg/L As ..... 1.98 mg/L Cr ..... 0.46 mg/L Se ..... 1.38 mg/L Ba ..... 0.50 mg/L Hg ..... 0.45 mg/L	225 g
RTC-CRM211-225G	TCLP Metals - Sandy Loam 13 Collected from sites located in the Western United States and analysed for eight Toxicity Characteristic Leaching Procedure (TCLP) Metals. The samples were certified using method USEPA SW 846, 3rd edition, 1311, 6011 and 7000 series. Certified values Lot 000534 As ..... 4.49 mg/L Cr ..... 0.533 mg/L Zn ..... 1.43 mg/L Ba ..... 0.320 mg/L Pb ..... 0.867 mg/L Cd ..... 3.18 mg/L Se ..... 1.68 mg/L	225 g
RTC-CRM212-225G	TCLP Metals - Loamy Sand 1 Collected from sites located in the Western United States and analysed for eight Toxicity Characteristic Leaching Procedure (TCLP) Metals. The samples were certified using method USEPA SW 846, 3rd edition, 1311, 6011 and 7000 series. Certified values Lot 000609 As ..... 0.295 mg/L Cd ..... 0.377 mg/L Se ..... 0.310 mg/L Ba ..... 0.716 mg/L Cr ..... 0.0187 mg/L Indicative values for Cu, Ag, Hg, Zn	225 g

Code	Product	Unit

RTC-CRM213-225G TCLP Metals - Loamy Sand 2 — 225 g

Collected from sites located in the Western United States and analysed for eight Toxicity Characteristic Leaching Procedure (TCLP) Metals. The samples were certified using method USEPA SW 846, 3rd edition, 1311, 6011 and 7000 series.

Certified values

Lot 000718

As	3.12 mg/L	Cd	13.1 mg/L	Hg	1.36 mg/L
Ag	0.0335 mg/L	Cr	0.280 mg/L	Se	7.56 mg/L
Ba	2.12 mg/L	Pb	4.83 mg/L		

RTC-CRM215-225G TCLP Metals - Sandy Loam 6 — 225 g

Collected from sites located in the Western United States and analysed for eight Toxicity Characteristic Leaching Procedure (TCLP) Metals. The samples were certified using method USEPA SW 846, 3rd edition, 1311, 6011 and 7000 series.

Certified values

Lot 000962

	Extraction fluid 1	Extraction fluid 2
As	3.3 mg/L	5.76 mg/L
Ba	16.5mg/L	17.4 mg/L
Cd	31.4 mg/L	54.1 mg/L
Cr	0.912 mg/L	2.09 mg/L
Pb	0.565 mg/L	1.93 mg/L
Hg	1.48 mg/L	1.78 mg/L
Se	1.31 mg/L	1.87 mg/L
Ag	ND	ND

ND: not detected

RTC-CRM217-225G TCLP Metals - Sandy Loam 8 — 225 g

Collected from sites located in the Western United States and analysed for eight Toxicity Characteristic Leaching Procedure (TCLP) Metals. The samples were certified using method USEPA SW 846, 3rd edition, 1311, 6011 and 7000 series.

Certified values

Lot BC217

As	1.84 mg/L	Cr	0.467 mg/L	Se	8.63 mg/L
Ba	3.43 mg/L	Pb	1.75 mg/L	Ag	0.037 mg/L
Cd	8.85 mg/L	Hg	0.198 mg/L		

RTC-CRM218-225G TCLP Metals - Loam 1 — 225 g

Collected from sites located in the Western United States and analysed for eight Toxicity Characteristic Leaching Procedure (TCLP) Metals. The samples were certified using method USEPA SW 846, 3rd edition, 1311, 6011 and 7000 series. All values are expressed in mg/L in the Method 1311 extract.

Certified values

Lot 017197

As	5.04 mg/L	Cu	0.0572 mg/L	Se	40.6 mg/L
Ag	0.0377 mg/L	Hg	1.03 mg/L	V	0.794 mg/L
Ba	49.4 mg/L	Pb	6.73 mg/L	Zn	41.3 mg/L
Cd	48.6 mg/L	Ni	0.0213 mg/L		
Cr	0.243 mg/L	Sb	0.0154 mg/L		

RTC-CRM304-30G BTEX - Clay 1 — 30 g

This soil is typical of that found in the backfill surrounding a leaking underground diesel storage tank (LUST). The sample has been analyzed by a minimum of 20 laboratories to meet the requirements specified by the IPA/AALA RM-03, ISO Guides 34 and 35. The soil was certified by USEPA SW846, 3rd edition Method 5030A and 8020A or 8040B and is suitable for use by these and other similar methods.

Certified values

Lot 002520

Benzene	3.57 mg/kg	o-Xylene	2.40 mg/kg
Ethylbenzene	8.73 mg/kg	Xylene, total	7.02 mg/kg
Toluene	3.84 mg/kg	Gasoline range organics (C6-C12)	65.5 mg/kg
m+p-Xylene	2.43 mg/kg		

RTC-CRM305-30G BTEX - Silt Loam 1 — 30 g

The sample was certified by USEPA SW846, 3rd edition Method 5030A and 8020A or 8240B and is suitable for use by these and other similar methods.

Certified values

Lot 010406

Benzene	57.5 mg/kg	m+p-Xylene	42.7 mg/kg
Ethylbenzene	3.49 mg/kg	o-Xylene	23.2 mg/kg
Methyl tert-butyl ether (MTBE)	31.6 mg/kg	Xylene, total	66.7 mg/kg
Toluene	15.5 mg/kg	Gasoline range organics (C6-C12)	235 mg/kg

Soils

Code	Product	Unit
RTC-CRM306-30G	BTEX - Soil 3	30 g

This soil is typical of that found in the backfill surrounding a leaking underground diesel storage tank (LUST). The soil was certified by USEPA SW846, 3rd edition Method 5030A and 8021B or 8260B and is suitable for use by these and other similar methods.

Certified values

Lot 010590

Benzene	20.2 mg/kg	o-Xylene	33.6 mg/kg
Ethylbenzene	40.1 mg/kg	m+p Xylene	30.4 mg/kg
Methyl tert-butyl ether (MTBE)	9.45 mg/kg	Total Xylene	69.5 mg/kg
Toluene	51.4 mg/kg		

RTC-CRM307-30G	BTEX/GRO - Loamy Clay 1	30 g

This soil is typical of that found in the backfill surrounding a leaking underground diesel storage tank (LUST). The soil was certified by USEPA SW846, 3rd edition Method 5030A and 8021B or 8260B and is suitable for use by these and other similar methods. The value for GRO was determined by GC method 8015M.

Certified values

Lot 015190

Benzene	4240 µg/kg	1,3,5 – Trimethylbenzene	1750 µg/kg
Ethylbenzene	6540 µg/kg	m+p-Xylene	6300 µg/kg
MTBE	5430 µg/kg	o-Xylene	3190 µg/kg
Napthalene	3560 µg/kg	Total Xylene	9820 µg/kg
Toluene	2790 µg/kg	Total purgeable hydrocarbons	65500 µg/kg
1,2,4 –Trimethylbenzene	2190 µg/kg		

RTC-CRM308-30G	BTEX - Loamy Sand 1	30 g

Certified values

Lot 014714

Benzene	4150 µg/kg	Toluene	4940 µg/kg
1,2- Dichlorobenzene	6400 µg/kg	1,2,4-Trimethylbenzene	5100 µg/kg
1,3-Dichlorobenzene	1500 µg/kg	1,3,5-Trimethylbenzene	2690 µg/kg
1,4-Dichlorobenzene	5670 µg/kg	m+p-Xylene	5170 µg/kg
Ethylbenzene	1550 µg/kg	o-Xylene	2320 µg/kg
Methyl tert-butyl ether (MTBE)	4720 µg/kg	Xylene, total	7390 µg/kg
Napthalene	3200 µg/kg	Total purgeable Hydrocarbons	67300 µg/kg

RTC-CRM309-30G	BTEX - Clay 2	30 g

Certified values

Lot 013253

Benzene	2300 µg/kg	m+p-Xylene	7240 µg/kg
Ethylbenzene	6130 µg/kg	o-Xylene	6440 µg/kg
Methyl tert-butyl ether (MTBE)	5070 µg/kg	Xylenes, total	12100 µg/kg
Toluene	5190 µg/kg		

RTC-CRM350-100G	TPH - Sandy Clay Loam 1	100 g

This soil is typical of that found in the backfill surrounding a leaking underground diesel storage tank (LUST). The soil was certified by USEPA 418.1.

Certified value

Lot 013246

TPH 8300 mg/kg

RTC-CRM355-100G	TPH - Sandy Loam 1	100 g

This soil is typical of that found in the backfill surrounding a leaking underground diesel storage tank (LUST). The soil was certified by USEPA 418.1.

Certified value

Lot JC355

TPH 7040 mg/kg

RTC-CRM357-100G	TPH - Sandy Loam 2	100 g

This soil is typical of that found in the backfill surrounding a leaking underground diesel storage tank (LUST). The soil was certified by USEPA 418.1.

Certified value

Lot JF357

TPH 3220 mg/kg

RTC-CRM353-100G	TPH - Sandy Loam 3	100 g

This soil is typical of that found in the backfill surrounding a leaking underground diesel storage tank (LUST). The soil was certified by USEPA 418.1.

Certified value

Lot 012182

TPH 2200 mg/kg

RTC-CRM354-100G	TPH - Sandy Loam 4	100 g

The sample is suitable for gravimetric, GC, and IR methods. The carbon chain of interest is C12 to C28.

Certified value

Diesel range organics (DRO)..... 728 ± 75.5 mg/kg

Code	Product	Unit

RTC-CRM358-100G TPH - Loamy Sand 3 — 100 g

The value was determined by USEPA Method 8015M, 418.1, Total Recoverable Petroleum Hydrocarbons.

Certified value

TPH..... 3650 mg/kg

RTC-CRM356-100G TPH - Loamy Sand 2 — 100 g

This soil is typical of that found in the backfill surrounding a leaking underground diesel storage tank (LUST). The soil was certified by USEPA 418.1.

Certified value

Lot GK356

TPH..... 3810 mg/kg
Diesel Range Organics (C10-C20)..... 611 mg/kg

RTC-CRM359-100G TPH - Clay Loam 1 — 100 g

Certified value

Lot 015649

Diesel range organics, C10-C28 ..... 982 mg/kg
Diesel Range Organics (DRO) ..... 1030 mg/kg
Total EPH..... 1110 mg/kg

RTC-CRM361-100G TPH - Sea Sediment 1 — 100 g

Certified value

Lot 011244

TPH (Diesel range organics) .....694.99 mg/kg

RTC-CRM371-100G Loamy Soil - TPH Banded — 100 g

The soil is to be extracted and analyzed using an appropriate extraction and analytical method for TPH, assuming a high concentration sample.

Certified values

Lot 013042

C10 to C12 Aliphatics..... 280 ± 14.8 mg/kg
C12 to C16 Aliphatics..... 764 ± 42.1 mg/kg
C16 to C21 Aliphatics..... 574 ± 30.4 mg/kg
C21 to C35 Aliphatics..... 63.4 ± 6.89 mg/kg
C10 to C12 Aromatics ..... 60.0 ± 6.70 mg/kg
C12 to C16 Aromatics ..... 210 ± 35.9 mg/kg
C16 to C21 Aromatics ..... 168 ± 12.4 mg/kg
C21 to C35 Aromatics ..... 23.6 ± 4.78 mg/kg
Total Petroleum Hydrocarbons(C6-C35) (TPH)..... 1,570 ± 286 mg/kg

RTC-CRM372-100G TPH - Sand 1 — 100 g

Certified values

Lot 014092

Total Petroleum Hydrocarbon..... 2020 mg/kg
C10 to C12 Aliphatics..... 70.9 mg/kg
C12 to C16 Aliphatics..... 314 mg/kg
C16 to C21 Aliphatics..... 209 mg/kg
C21 to C35 Aliphatics..... 460 mg/kg
C10 to C12 Aromatics ..... 17.1 mg/kg
C12 to C16 Aromatics ..... 112 mg/kg
C16 to C21 Aromatics ..... 96.2 mg/kg
C21 to C35 Aromatics ..... 39.4 mg/kg

RTC-CRM373-100G Clay Soil - TPH Banded — 100 g

The soil is to be extracted and analyzed using an appropriate extraction and analytical method for TPH, assuming a high concentration sample. The values given are based on GC-FID/PID and column separation methods for aliphatics and aromatics.

Certified values

Lot 014476

C10 to C12 Aliphatics..... 93.6 ± 10.5 mg/kg
C12 to C16 Aliphatics..... 302 ± 23.2 mg/kg
C16 to C21 Aliphatics..... 205 ± 10.3 mg/kg
C21 to C35 Aliphatics..... 539 ± 30.9 mg/kg
C10 to C12 Aromatics ..... 36.8 ± 8.15 mg/kg
C12 to C16 Aromatics ..... 151 ± 24.0 mg/kg
C16 to C21 Aromatics ..... 86.8 ± 11.1 mg/kg
C21 to C35 Aromatics ..... 26.7 ± 6.50 mg/kg
Total Petroleum Hydrocarbons C6-C35. 1050 ± 101 mg/kg

RTC-CRM401-225G TCLP Semi-Volatiles - Sludge 1 — 225 g

Organic contaminated soil from a superfund site in the Western United States. Certified using methods USEPA, SW846, 3rd edition, Extraction Method 1311 and analytical methods 8031, 8150 and 8270.

Lot D5401

Certified values

o-Cresol..... 888 mg/kg
Total cresol..... 2660 mg/kg
Lindane ..... 1.05 mg/kg
Pentachlorophenol ..... 117 mg/kg
2,4,6-Trichlorophenol ..... 58.7 mg/kg

Indicative values for m+p Cresol, 2,4-D

TCLP: Total Characteristic Leaching Procedure.
Superfund: US Government funding for the cleaning up of sites in the United States where dumping of hazardous waste has occurred.

Code	Product	Unit
RTC-CRM402-225G	TCLP Semi-Volatiles - Sandy Loam 1 The reference values were determined by USEPA SW846 (3rd edition) Extraction Method 1311 and Analytical Methods 8081, 8150, and 8270. The sample is suitable for these and other similar methods. Certified values CD402 Nitrobenzene ..... 12.2 mg/L 2,4-Dinitrotoluene (2,4-DNT) ..... 0.619 mg/L BHC (Lindane) ..... 1.28 mg/L 2,4-D ..... 67.1 mg/L	225 g
RTC-CRM497-100G	pH - Sandy Clay Lot 014662 pH.....5.83 ± 0.0471	100 g
RTC-CRM498-100G	pH/Conductivity - Clay Soil The soil is to be extracted and analyzed using an appropriate extraction and analytical method to determine pH corrosivity, such as USEPA Method SW-846 9040B or 9045C. Lot 015914 Specific conductance conductivity (25 ºC).....2100 ± 389 µmhos/cm pH..... 9.20 ± 0.0754	100 g
RTC-CRM499-100G	pH - Loamy Sand The soil is to be extracted and analyzed using an appropriate extraction and analytical method to determine pH corrosivity such as USEPA Method SW-846 9040B or 9045C. Lot 015063 pH.....9.18 ± 0.0577	100 g
RTC-CRM501-30G	BTEX/GRO - Loamy Clay 2 The sample was certified by USEPA Method 8015B, and is suitable for use by this and other similar methods. Certified values Lot 010589 Benzene ..... 10.5 mg/kg Ethylbenzene..... 9.63 mg/kg Toluene ..... 42.6 mg/kg m+p-Xylene ..... 34.2 mg/kg o-Xylene ..... 12.6 mg/kg Xylene, total..... 46.3 mg/kg Gasoline range organics (C6-C12) ..... 480 mg/kg	30 g
RTC-CRM502-30G	BTEX/GRO - Clay 1 The sample was certified by USEPA Method 8015B, and is suitable for use by this and other similar methods. Certified values Lot 013606 Benzene ..... 8.79 mg/kg Ethylbenzene..... 5.77 mg/kg Toluene ..... 27.4 mg/kg m+p-Xylene ..... 23.4 mg/kg o-Xylene ..... 8.66 mg/kg Xylene, total..... 33.0 mg/kg Gasoline range organics (C5-C10) ..... 357 mg/kg	30 g
RTC-CRM504-30G	BTEX/GRO - Silty Clay 1 The certified values were determined by USEPA SW846 (3rd edition) Method 8015B. Certified values Lot 016116 GRO (Gasoline Range Organics) ..... 886 mg/kg Benzene ..... 22.5 mg/kg Ethylbenzene..... 16.5 mg/kg Toluene ..... 76.9 mg/kg m+p-Xylene ..... 70.7 mg/kg o-Xylene ..... 26.1 mg/kg Total Xylene ..... 92.9 mg/kg Naphthalene ..... 3.94 mg/kg GRO (C5-C10)..... 685 mg/kg	30 g
RTC-CRM513-30G	BTEX/GRO - Sandy Loam 2 Certified values Lot 011783 Benzene ..... 5.11 mg/kg Ethylbenzene..... 3.86 mg/kg Toluene ..... 18.6 mg/kg m+p-Xylene ..... 14.5 mg/kg o-Xylene ..... 5.70 mg/kg Xylene, total..... 18.7 mg/kg Gasoline range organic (GRO), C5-C10 ..... 242 mg/kg	30 g
RTC-CRM550-100G	Diesel - Soil 1 This soil is typical of that found in the backfill surrounding a leaking underground diesel storage tank (LUST). The soil was certified by USEPA SW846 (3rd edition) Method 8015B.. Certified value Lot 015644 Diesel Range Organics 963mg/kg	100 g
RTC-CRM558-100G	Diesel - Clay Loam 1 The sample was certified by USEPA Method 8015B, and is suitable for use by this and other similar methods. Certified values EPH.....591 mg/kg Diesel range organics (DRO).....544 mg/kg	100 g

Code	Product	Unit
RTC-CRM560-100G	Diesel - Soil 4 Certified Diesel Range Organics (DRO) ..... 485 mg/Kg	100 g
RTC-CRM636-25G	VOCs - Loamy Sand 5 Certified values Lot 016530 Acrolein ..... 1080 µg/kg Acetone ..... 27900 µg/kg Benzene ..... 5110 µg/kg Bromobenzene ..... 3810 µg/kg Bromodichloromethane ..... 3500 µg/kg 2-Butanone (Methyl ethyl ketone, MEK) 15800 µg/kg Carbon tetrachloride ..... 3110 µg/kg Chlorobenzene ..... 4740 µg/kg Chloroethane ..... 4010 µg/kg 2-Chloroethyl vinyl ether ..... 923 µg/kg Chloroform ..... 8260 µg/kg 1,2-Dibromo-3-chloropropane ..... 5280 µg/kg Dibromochloromethane ..... 8680 µg/kg Dibromomethane ..... 7950 µg/kg 1,2-Dichlorobenzene ..... 5330 µg/kg 1,3-Dichlorobenzene ..... 6440 µg/kg 1,4-Dichlorobenzene ..... 5680 µg/kg 1,1-Dichloroethane ..... 5770 µg/kg 1,2-Dichloroethane ..... 8540 µg/kg 1,1-Dichloroethylene ..... 5310 µg/kg cis-1,2-Dichloroethylene ..... 9050 µg/kg 1,2-Dichloropropane ..... 7800 µg/kg trans-1,3-Dichloropropene ..... 6690 µg/kg trans-1,2-Dichloroethylene ..... 6720 µg/kg Ethylbenzene ..... 6150 µg/kg 2-Hexanone ..... 11700 µg/kg Isopropylbenzene ..... 5440 µg/kg Methyl bromide ..... 1980 µg/kg Methyl chloride ..... 3620 µg/kg 4-Methyl-2-pentanone (MIBK) ..... 10700 µg/kg Methyl tert-butyl ether (MTBE) ..... 6600 µg/kg Naphthalene ..... 6780 µg/kg Styrene ..... 7070 µg/kg 1,1,1,2-Tetrachloroethane ..... 5580 µg/kg 1,1,2,2-Tetrachloroethane ..... 7070 µg/kg Tetrachloroethylene ..... 8430 µg/kg Toluene ..... 4840 µg/kg 1,2,4-Trimethylbenzene ..... 8400 µg/kg 1,1,2-Trichloroethane ..... 2260 µg/kg Trichloroethene ..... 7630 µg/kg Trichlorofluoromethane ..... 8280 µg/kg 1,2,3-Trichloropropane ..... 8550µg/kg 1,2,4-Trimethylbenzene ..... 7650 µg/kg 1,3,5-Trimethylbenzene ..... 12000 µg/kg Vinyl chloride ..... 5360 µg/kg m+p-Xylene ..... 8920 µg/kg o-Xylene ..... 2680 µg/kg Xylene ..... 11300 µg/kg	25 g
RTC-CRM638-25G	VOCs - Clay 4 Certified values Lot 015215 Acetone ..... 27900 µg/kg Benzene ..... 5390 µg/kg Bromobenzene ..... 3660 µg/kg Bromodichloromethane ..... 3870 µg/kg 2-Butanone (Methyl ethyl ketone, MEK) 11100 µg/kg Carbon tetrachloride ..... 6910 µg/kg Chlorobenzene ..... 9080 µg/kg Chloroethane ..... 4060 µg/kg Chloroform ..... 5800 µg/kg 1,2-Dibromo-3-chloropropane ..... 5730 µg/kg Dibromochloromethane ..... 3320 µg/kg 1,2-Dibromomethane ..... 6300 µg/kg Dibromomethane ..... 6240 µg/kg 1,2-Dichlorobenzene ..... 9130 µg/kg 1,3-Dichlorobenzene ..... 3600 µg/kg 1,4-Dichlorobenzene ..... 3320 µg/kg 1,2-Dichloroethane ..... 7970 µg/kg 1,1-Dichloroethylene ..... 5780 µg/kg cis-1,2-Dichloroethylene ..... 5050 µg/kg 1,2-Dichloropropane ..... 6900 µg/kg cis-1,3-Dichloropropene ..... 6640 µg/kg trans-1,2-Dichloroethylene ..... 9380 µg/kg Ethylbenzene ..... 6480 µg/kg 2-Hexanone ..... 15800 µg/kg Isopropylbenzene ..... 8520 µg/kg Methyl bromide ..... 5020 µg/kg Methyl chloride ..... 1970 µg/kg 4-Methyl-2-pentanone (MIBK) ..... 10600 µg/kg Methyl tert-butyl ether (MTBE) ..... 3060 µg/kg Naphthalene ..... 6250 µg/kg Styrene ..... 5650 µg/kg 1,1,1,2-Tetrachloroethane ..... 5280 µg/kg Tetrachloroethylene ..... 7200 µg/kg Toluene ..... 8060 µg/kg 1,2,4-Trichlorobenzene ..... 2960 µg/kg 1,1,1-Trichloroethane ..... 9380 µg/kg 1,1,2-Trichloroethane ..... 2940 µg/kg Trichloroethene ..... 7470µg/kg Trichlorofluoromethane ..... 8400 µg/kg 1,2,3-Trichloropropane ..... 3490 µg/kg 1,2,4-Trimethylbenzene ..... 11400 µg/kg 1,3,5-Trimethylbenzene ..... 18800 µg/kg Vinyl chloride ..... 8370 µg/kg m+p-Xylene ..... 11500 µg/kg o-Xylene ..... 2790 µg/kg Xylene ..... 14500 µg/kg	25 g
RTC-CRM700-50G	Anions - Sandy Loam 1 Lot 019372 Bromide ..... 98.2 ± 4.39 mg/Kg Chloride ..... 761 ± 37.7 mg/Kg Fluoride ..... 244 ± 15.3 mg/Kg Nitrate as N ..... 71.5 ± 2.75 mg/Kg Nitrate+nitrite as N ..... 75.1 ± 3.29 mg/Kg Orthophosphate as P ..... 128 ± 3.37 mg/Kg Sulfate ..... 163 ± 5.85 mg/Kg	50 g
RTC-CRM701-50G	Anions - Clay 1 Lot 014084 Bromide ..... 137 ± 3.99 mg/Kg Chloride ..... 348 ± 16.4 mg/Kg Fluoride ..... 245 ± 26.2 mg/Kg Nitrate as N ..... 51.8 ± 1.91 mg/Kg Nitrate+nitrite as N ..... 51.8 ± 2.64 mg/Kg Orthophosphate as P ..... 73.5 ± 8.79 mg/Kg Sulfate ..... 374 ± 12.0 mg/Kg	50 g

Code	Product	Unit
RTC-CRM702-50G	Anions - Loamy Sand 1 Lot 015911 Bromide ..... 154 ± 3.32 mg/Kg Chloride ..... 85.1 ± 12.4 mg/Kg Fluoride ..... 51.7 ± 18.4 mg/Kg Nitrate as N ..... 198 ± 8.25 mg/Kg Nitrate+nitrite as N..... 196 ± 9.89 mg/Kg Orthophosphate as P ..... 46.5 ± 20.4 mg/Kg Sulfate ..... 2080 ± 113 mg/Kg	50 g
RTC-CRM750-30G	Cyanide - Sediment Lot 017081 Cyanide ..... 65.3 ± 7.92 mg/Kg	30 g
RTC-CRM751-30G	Cyanide - Clay (Please ask for details)	30 g
RTC-CRM752-30G	Cyanide - Sandy Loam (Please ask for details)	30 g
RTC-CRM775-30G	Sulfide - Sediment Lot 016383 Sulfide ..... 41.3 ± 16.7 mg/Kg	30 g
RTC-CRM776-30G	Sulfide - Clay Lot 016510 Sulfide ..... 91.7 ± 30.6 mg/Kg	30 g
RTC-CRM777-30G	Sulfide - Sandy Loam Lot 017082 Sulfide ..... 167 ± 16.3 mg/Kg	30 g
RTC-CRM803-50G	Herbicides - Sandy Loam 1 Soil contaminated with herbicide compounds from an agricultural region in the Western region of the United States. The sample was certified by USEPA SW846, 3rd edition Methods 8151 (herbicides by GC). The sample is suitable for these and other similar methods. Certified values Lot GF803 2,4-D ..... 44600 µg/kg 2,4,5-T ..... 25746 µg/kg 2,4,5-TP ..... 41334 µg/kg	50 g
RTC-CRM804-50G	Pesticides - Sandy Loam 1 Soil contaminated with pesticide compounds from an agricultural region in the Western region of the United States. The sample was certified by USEPA SW846, 3rd edition Methods 3540A/3541 (Soxhlet extraction), 3550 (Sonication), and 8081 (Pesticides by GC). The sample is suitable for these and other similar methods. Certified values Lot DG804 Aldrin ..... 18 µg/kg 4,4'-DDD ..... 1531 µg/kg 4,4'-DDE ..... 1520 µg/kg 4,4'-DDT ..... 1060 µg/kg Dieldrin ..... 1863 µg/kg Endosulfan I ..... 1464 µg/kg EndosulfanII ..... 1128 µg/kg Endrin ..... 62.2 µg/kg Lindane ..... 491 µg/kg	50 g
RTC-CRM805-50G	Pesticides - Sandy Loam 2 Soil contaminated with pesticide compounds from an agricultural region in the Western region of the United States. The sample was certified by USEPA SW846, 3rd edition Methods 3540A/3541 (Soxhlet extraction), 3550 (Sonication), and 8081 (Pesticides by GC). The sample is suitable for use by these and other similar methods. Certified values Lot FH805 DDD ..... 19500 µg/kg DDE ..... 18613 µg/kg DDT ..... 786 µg/kg Endosulfan I ..... 6900 µg/kg Endosulfan II ..... 5940 µg/kg Endrin ..... 12967 µg/kg Endrine aldehyde ..... 95.5 µg/kg Lindane ..... 10618 µg/kg Methoxychlor ..... 15800 µg/kg	50 g
RTC-CRM806-100G	Chlordane - Loamy Sand 1 The certified value was determined by USEPA SW846 (3rd edition) Extraction Methods 3540B/3541 (soxhlet), 3550A (sonication) and Analysis Method 8081 (pesticides by GC). The sample is suitable for these and other similar methods. Certified value Lot FH806 Chlordane ..... 7.19 mg/kg	100 g
RTC-CRM808-50G	Herbicides - Loam 1 Soil fortified with herbicides to meet the requirements of NELAC Fields of Testing. The sample was certified by USEPA SW846 (3rd edition) method 8151 (herbicides by GC). The sample is suitable for these and other similar methods. Certified values Lot AC808 2,4-D ..... 314 µg/kg 2,4-DB ..... 252 µg/kg Dicamba ..... 307 µg/kg 2,4,5-T acid ..... 222 µg/kg 2,4,5-TP ..... 302 µg/kg Indicative value for Pentachlorophenol	50 g

Code	Product	Unit
RTC-CRM810-50G	**Herbicides - Loamy Sand 1** Soil fortified with herbicides to meet the requirements of NELAC Fields of Testing. The sample was certified by USEPA SW846 (3rd edition) method 8151A (herbicides by GC). The sample is suitable for these and other similar methods. Certified values Lot BC810 2,4,5-T ..... 171 µg/kg 2,4,5-TP (Silvex) ..... 249 µg/kg 2,4-D ..... 311 µg/kg Dalapon ..... 156 µg/kg Dicamba ..... 369 µg/kg	50 g
RTC-CRM812-50G	**Chlordane - Sandy Loam 1** The certified value was determined by USEPA SW846 (3rd edition) Extraction Methods 3540B/3541 (soxhlet), 3550A (sonication) and Analysis Method 8081 (pesticides by GC). The sample is suitable for these and other similar methods. Certified value Lot AL812 Chlordane ..... 205 µg/kg	50 g
RTC-CRM813-50G	**Toxaphene - Sandy Loam 1** The certified value was determined by USEPA SW846 (3rd edition) Extraction Methods 3540B/3541 (soxhlet), 3550A (sonication) and Analysis Method 8081 (pesticides by GC). The sample is suitable for these and other similar methods. Certified value Lot BC813 Toxaphene ..... 254 µg/kg	50 g
RTC-CRM814-50G	**Pesticides - Sandy Loam 3** The sample was certified by USEPA SW846 (3rd edition) method 8081A (Pesticides by GC). The sample is suitable for these and other similar methods. Certified values Lot 014692 Aldrin ..... 80.1 µg/kg 4,4'-DDD ..... 189 µg/kg 4,4'-DDE ..... 410 µg/kg 4,4'-DDT ..... 322 µg/kg Dieldrin ..... 182 µg/kg Endosulfan I ..... 425 µg/kg Endosulfan II ..... 58.3 µg/kg Endosulfan sulfate ..... 62.0 µg/kg Endrin ..... 393 µg/kg Endrin aldehyde ..... 149 µg/kg Endrin ketone ..... 125 µg/kg Heptachlor ..... 99.4 µg/kg Hexachlorobenzene ..... 255 µg/kg alpha-HCH ..... 258 µg/kg beta-HCH ..... 140 µg/kg gamma-HCH (Lindane) ..... 276 µg/kg alpha- Chlordane ..... 92.5 µg/kg gamma – Chlordane ..... 63.9 µg/kg Methoxychlor ..... 327 µg/kg Propachlor ..... 98.0 µg/kg	50 g
RTC-CRM817-50G	**Herbicides - Loam 2** Soil fortified with herbicides to meet the requirements of NELAC Fields of Testing. The sample was certified by USEPA SW846 (3rd edition) method 8151A (herbicides by GC). The sample is suitable for these and other similar methods. Certified values Lot BE817 Dalapon ..... 112 µg/kg 2,4-D acid ..... 250 µg/kg 2,4-DB ..... 188 µg/kg Dicamba ..... 247 µg/kg MCPP ..... 4800 µg/kg Pentachlorophenol ..... 267 µg/kg 2,4,5-T acid ..... 84.5 µg/kg 2,4,5-TP ..... 188 µg/kg	50 g
RTC-CRM818-50G	**Pesticides - Loam 1** Soil fortified with pesticide compounds to meet the requirements of NELAC Fields of Testing. The sample was certified by USEPA SW846 (3rd edition) method 8081A (Pesticides by GC). The sample is suitable for these and other similar methods. Certified values Aldrin ..... 182 µg/kg 4,4'-DDD ..... 553 µg/kg 4,4'-DDE ..... 417 µg/kg 4,4'-DDT ..... 446 µg/kg Dieldrin ..... 344 µg/kg Endosulfan I ..... 318 µg/kg Endosulfan II ..... 357 µg/kg Endosulfan Sulfate ..... 345 µg/kg Endrin ..... 340 µg/kg Heptachlor ..... 194 µg/kg alpha-HCH ..... 394 µg/kg beta-HCH ..... 333 µg/kg gamma-HCH (Lindane) ..... 416 µg/kg Methoxychlor ..... 280 µg/kg	50 g
RTC-CRM821-50G	**OP Pesticides - Sandy Loam 1** Certified values Lot 014702 Azinphos-methyl (Guthion) ..... 0.792 mg/kg Chlorfenvinphos ..... 0.186 mg/kg Chlorpyrifos ..... 0.150 mg/kg Diazinon ..... 0.509 mg/kg EPN ..... 0.508 mg/kg Ethoprop ..... 0.328 mg/kg Famphur ..... 0.526 mg/kg Fenthion ..... 0.311 mg/kg Malathion ..... 0.277 mg/kg Parathion, methyl ..... 0.629 mg/kg Parathion, ethyl ..... 0.432 mg/kg Phorate ..... 0.0903 mg/kg Ronnel ..... 0.250 mg/kg Sulfotepp ..... 0.026 mg/kg Tetrachlorvinphos ..... 0.642 mg/kg Disulfoton ..... 0.117 mg/kg	50 g
RTC-CRM823-50G	**Herbicides - Soil 2 (Please ask for details)**	50 g

Code	Product	Unit
RTC-CRM824-50G	**Pesticides - Sandy Loam 4** Soil fortified with pesticide compounds to meet the requirements of NELAC Fields of Testing. The sample was certified by USEPA SW846 (3rd edition) method 8081A (Pesticides by GC). The sample is suitable for these and other similar methods. Certified values Lot BL824 4,4'-DDD ... 367 µg/kg 4,4'-DDE ... 396 µg/kg 4,4'-DDT ... 363 µg/kg Endosulfan I ... 361 µg/kg Endosulfan II ... 340 µg/kg Endosulfan sulfate ... 327 µg/kg Endrin ... 358 µg/kg Endrin aldehyde ... 398 µg/kg Heptachlor ... 338 µg/kg Heptachlor epoxide (beta) ... 317 µg/kg alpha-HCH ... 361 µg/kg beta-HCH ... 382 µg/kg gamma-HCH (Lindane) ... 371 µg/kg Methoxychlor ... 365 µg/kg Indicative value for Endrin ketone	50 g
RTC-CRM825-50G	**Chlordane - Sandy Loam 2** The certified value was determined by USEPA SW846 (3rd edition) Extraction Methods 3540B/3541 (soxhlet), 3550A (sonication) and Analysis Method 8081 (pesticides by GC). The sample is suitable for these and other similar methods. Certified value Lot BL825 Chlordane ... 392 µg/kg	50 g
RTC-CRM826-50G	**Toxaphene - Soil 2** The Certified value was determined by USEPA SW846 (3rd edition) Extraction Methods 3540B/3541 (soxhlet), 3550A (sonication) and Analysis Method 8081 (pesticides by GC). The sample is suitable for these and other similar methods. Certified value Lot BL826 Toxaphene ... 257 µg/kg	50 g
RTC-CRM828-50G	**OP Pesticides - Sandy Loam 2** Fortified to meet the requirements of NELAC Fields of Testing, RCRA Solid. The Reference Values were determined by USEPA SW846 (3rd edition) method 8081A. Certified values Lot 001682 Aldrin ... 126 µg/Kg 4,4'-DDD ... 397 µg/Kg 4,4'-DDE ... 293 µg/Kg 4,4'-DDT ... 302 µg/Kg Dieldrin ... 225 µg/Kg Endosulfan I ... 170 µg/Kg Endosulfan II ... 223 µg/Kg Endosulfan sulfate ... 319 µg/Kg Endrin ... 336 µg/Kg alpha-HCH ... 338 µg/Kg beta-HCH ... 272 µg/Kg gamma-HCH (Lindane) ... 384 µg/Kg Heptachlor ... 136 µg/Kg Methoxychlor ... 279 µg/Kg	50 g
RTC-CRM829-50G	**Toxaphene - Silt Loam 1** Certified value Lot 01678 Toxaphene ... 221 µg/kg	50 g
RTC-CRM831-50G	**Herbicides - Silt Loam 1** Fortified to meet the requirements of NELAC Fields of Testing, RCRA Solid. The Reference Values were determined by USEPA SW846 (3rd edition) Analysis Method 8151. (herbicides by GC). Certified values Lot 001679 Pentachlorophenol ... 161 µg/kg 2,4-D ... 415 µg/kg Dalapon ... 158 µg/kg 2,4-DB ... 361 µg/kg Dicamba ... 374 µg/kg Silvex (2,4,5-TP) ... 297 µg/kg 2,4,5-T ... 172 µg/kg	50 g
RTC-CRM837-50G	**OP Pesticides - Silt Loam 1** The reference values were determined by USEPA SW846 (3rd edition) Analysis Method 8141A. Certified values Lot 015621 Azinphos-methyl (Guthion) ... 299 µg/kg Chlorpyrifos ... 292 µg/kg Diazinon ... 624 µg/kg EPN ... 553 µg/kg Ethoprop ... 300 µg/kg Malathion ... 706 µg/kg Methyl parathion (Parathion, methyl) ... 227 µg/kg Parathion, ethyl ... 782 µg/kg Ronnel ... 180 µg/kg Tetrachlorvinphos ... 254 µg/kg	50 g

Code	Product	Unit
RTC-CRM846-50G	**Pesticides - Loamy Sand 1** The reference values were determined by USEPA SW846 (3rd edition) method 8081A. The sample is suitable for this and other similar methods. Certified values Lot 015141 Aldrin 63.8 µg/kg alpha-Chlordane 98.3 µg/kg gamma-Chlordane 376 µg/kg 4,4'-DDD 259 µg/kg 4,4'-DDE 243 µg/kg 4,4'-DDT 190 µg/kg Dieldrin 290 µg/kg Endosulfan I 187 µg/kg Endosulfan II 119 µg/kg Endosulfan sulfate 160 µg/kg Endrin aldehyde 116 µg/kg Endrin ketone 82.7 µg/kg Endrin 222 µg/kg delta-HCH 100 µg/kg alpha-HCH 256 µg/kg beta-HCH 327 µg/kg gamma-HCH (Lindane) 147 µg/kg Heptachlor 70.8 µg/kg Heptachlor epoxide 238 µg/kg Methoxychlor 238 µg/kg Propachlor 287 µg/kg Trifluralin 282 µg/kg	50 g
RTC-CRM847-50G	**Pesticides - Clay Loam 1** The certified values were determined by USEPA SW846 (3rd edition) method 8081A. The sample is suitable for this and other similar methods. Certified values Lot 002405 4,4'-DDD 228 µg/kg 4,4'-DDE 218 µg/kg 4,4'-DDT 172 µg/kg Aldrin 115 µg/kg Dieldrin 125 µg/kg Endosulfan I 160 µg/kg Endosulfan II 233 µg/kg Endosulfan sulfate 270 µg/kg Endrin 377 µg/kg Endrin aldehyde 49.3 µg/kg alpha-HCH 225 µg/kg beta-HCH 92.4 µg/kg delta-HCH 67.6 µg/kg gamma-HCH (Lindane) 340 µg/kg Heptachlor 109 µg/kg Heptachlor epoxide (beta) 98.7 µg/kg Methoxychlor 172 µg/kg	50 g
RTC-CRM850-50G	**Toxaphene - Sediment 1** Assigned value Toxaphene (Chlorinated camphene) 198 ug/Kg	50 g
RTC-CRM851-50G	**OP Pesticides - Sediment 1** Lot 002536 Certified values Azinphos-methyl (Guthion) 1.76 mg/kg Chlorfenvinphos 1.76 mg/kg Diazinon 0.217 mg/kg Malathion 4.14 mg/kg Parathion, methyl 5.80 mg/kg Parathion, ethyl 3.23 mg/kg Ronnel 2.14 mg/kg Tetrachlorvinphos 0.673 mg/kg Disulfoton 5.18 mg/kg	50 g
RTC-CRM852-50G	**Chlordane - Sediment 1** Certified value Lot 002531 Chlordane (total) 235 µg/kg	50 g
RTC-CRM853-50G	**Toxaphene - Clay 1** Certified value Lot 010770 Toxaphene 306 µg/kg	50 g
RTC-CRM860-50G	**Pesticides - Loamy Sand 2** Certified values Lot 010760 Hexachlorobenzene 83.3 µg/kg delta-BHC 65.7 µg/kg alpha-BHC (alpha-Hexachlorocyclohexane) 115 µg/kg beta-BHC (beta-Hexachlorocyclohexane) 109 µg/kg alpha-Chlordane 74.0 µg/kg gamma-Chlordane 101 µg/kg 4,4'-DDD 116 µg/kg 4,4'-DDE 70.8 µg/kg 4,4'-DDT 49.4 µg/kg Dieldrin 79.7 µg/kg Endosulfan I 91.5 µg/kg Endosulfan II 111 µg/kg Endosulfan sulfate 58.6 µg/kg Endrin aldehyde 50.2 µg/kg Endrin ketone 119 µg/kg Endrin 75.3 µg/kg Heptachlor 68.1 µg/kg Heptachlor epoxide 106 µg/kg Methoxychlor 96.6 µg/kg	50 g

Soils

Code	Product	Unit
RTC-CRM910-50G	PCB 1242 - Loam Real-world waste produced from a contaminated site in the Eastern United States. The sample was certified by USEPA SW846, 3rd edition Method 3540A/8081 and is suitable for use by these and other similar methods. Certified value D910 Aroclor 1242 ..... 39.4 mg/kg	50 g
RTC-CRM911-50G	PCB 1254 - Loam Real-world waste collected from a percolation pond at an electric generating facility in the Southeastern United States. The sample was certified by USEPA SW846 (3rd edition) Methods 3540A/3545/3550 and 8082. The sample is suitable for use by these and other similar methods. Certified value BC911 Aroclor 1254 ..... 1.28 mg/kg	50 g
RTC-CRM913-50G	PCB 1254 - Sandy Loam Real-world waste collected from electric utility storage site Western United States.The PCB value was certified using extraction method 3540A and analysis method 8081 (PCBs by GC) and is suitable for use by these and other similar methods. Certified value Lot DG913 Aroclor 1254 ..... 5.93 mg/kg	50 g
RTC-CRM915-50G	PCB 1260 - Sandy Loam Real-world waste collected from a site in the Western United States. The sample was certified by USEPA SW846, 3rd edition Method 3540A/8081 and is suitable for use by these and other similar methods. Certified values Lot JG915 Aroclor 1260 ..... 1.50 mg/kg	50 g
RTC-CRM916-50G	PCB 1248 - Loamy Sand Real-world waste collected from a site in the Western United States. The sample was certified by USEPA SW846, 3rd edition Method 3540A/8081 and is suitable for use by these and other similar methods. Certified value Lot IH916 Aroclor 1248 ..... 10.7 mg/kg	50 g
RTC-CRM917-50G	PCB 1242 - Loamy Sand Real-world waste collected from a site in the Western United States. The sample was certified by USEPA SW846, 3rd edition Method 3540A/8081 and is suitable for use by these and other similar methods. Certified value Lot II917 Aroclor 1242 ..... 5.05 mg/kg	50 g
RTC-CRM918-50G	PCB 1254 - Sandy Loam Real-world waste collected from a site in the Western United States. The sample was certified by USEPA SW846, 3rd edition Method 3540A/8081 and is suitable for use by these and other similar methods. Certified value Lot JI918 Aroclor 1252 ..... 274 mg/kg	50 g
RTC-CRM919-50G	PCB 1221 - Sandy Loam Aroclor-1221 (PCB-1221) ..... 22.0 ± 2.05 mg/kg	50 g
RTC-CRM920-10G	PCB 1260 - Transformer Oil Oil taken from an electrical transformer. The sample was certified by USEPA SW846, 3rd edition Method 3540A/8081 and is suitable for use by these and other similar methods. Certified value Aroclor 1260 ..... 35.2 mg/kg	10 g
RTC-CRM921-50G	PCB 1242 - Sandy Loam Real-world waste collected from a site in the Western United States. The sample was certified by USEPA SW846, 3rd edition Method 3540A/8081 and is suitable for use by these and other similar methods. Certified value Lot AL921 Aroclor 1242 ..... 29.8 mg/kg	50 g
RTC-CRM922-50G	PCB 1016 - Loam Real-world waste collected from a site in the Western United States. The sample was certified by USEPA SW846, 3rd edition Method 3540A/8081 and is suitable for use by these and other similar methods. Certified value Aroclor 1016 ..... 8.30 mg/kg	50 g

Code	Product	Unit
RTC-CRM923-50G	PCB 1254 - Silt Loam Real-world waste collected from a site in the Western United States. The sample was certified by USEPA SW846, 3rd edition Method 3540A/8081 and is suitable for use by these and other similar methods. Certified value BL923 Aroclor 1254 ..... 5.47 mg/kg	50 g
RTC-CRM924-50G	PCB 1242 - Silt Loam Certified value Lot P76 Aroclor 1242 ..... 8.27 mg/kg	50 g
RTC-CRM927-50G	PCB 1242 - Clay Loam The certified value was determined by USEPA SW846 (3rd edition) Methods 8081A and 8082. The sample is suitable for use by these and other similar methods. Certified value Lot 002392 Aroclor 1242 ..... 7.03 mg/kg	50 g
RTC-CRM961-50G	PCB Congeners - Clay Certified values Lot 013366 PCBs, total ..... 3,100 ± 516 µg/kg 2,4,4'-Trichlorobiphenyl (PCB 28) ..... 135 ± 19.8 µg/kg 2,2',5,5'-Tetrachlorobiphenyl (PCB 52) ..... 85.9 ± 18.2 µg/kg 3,3',4,4'-Tetrachlorobiphenyl (PCB 77) ..... 223 ± 31.5 µg/kg 3,4,4',5-Tetrachlorobiphenyl (PCB 81) ..... 205 ± 35.8 µg/kg 2,2',4,5,5'-Pentachlorobiphenyl (PCB 101) ..... 106 ± 11.0 µg/kg 2,3,3',4,4'-Pentachlorobiphenyl (PCB 105) ..... 147 ± 18.5 µg/kg 2,3',4,4',5-Pentachlorobiphenyl (PCB 118) ..... 173 ± 19.9 µg/kg 2,3',4,4',5'-Pentachlorobiphenyl (PCB 123) ..... 170 ± 24.0 µg/kg 2,3,4,4',5-Pentachlorobiphenyl (PCB 114) ..... 183 ± 28.9 µg/kg 3,3',4,4',5-Pentachlorobiphenyl (PCB 126) ..... 213 ± 26.6 µg/kg 2,2',3,4,4',5'-Hexachlorobiphenyl (PCB 138) ..... 130 ± 22.8 µg/kg 2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153) ..... 137 ± 18.5 µg/kg 2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167) ..... 236 ± 43.7 µg/kg 3,3',4,4',5,5'-Hexachlorobiphenyl (PCB 169) ..... 124 ± 15.5 µg/kg 2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180) ..... 116 ± 11.6 µg/kg 2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189) ..... 247 ± 60.2 µg/kg PCB (156)+(157) ..... 370 ± 4.59 µg/kg	50 g
RTC-CRM962-50G	PCB Congeners - Loamy Sand Certified values Lot 012222 2,4,4'-Trichlorobiphenyl (PCB 28) ..... 180 ± 53.6 µg/kg 2,2',5,5'-Tetrachlorobiphenyl (PCB 52) ..... 179 ± 40.7 µg/kg 3,3',4,4'-Tetrachlorobiphenyl (PCB 77) ..... 221 ± 32.1 µg/kg 3,4,4',5-Tetrachlorobiphenyl (PCB 81) ..... 165 ± 2.73 µg/kg 2,2',4,5,5'-Pentachlorobiphenyl (PCB 101) ..... 119 ± 39.5 µg/kg 2,3,3',4,4'-Pentachlorobiphenyl (PCB 105) ..... 108 ± 19.6 2 µg/kg 2,3',4,4',5-Pentachlorobiphenyl (PCB 118) ..... 154 ± 11.8 2 µg/kg 2,3',4,4',5'-Pentachlorobiphenyl (PCB 123) ..... 187 ± 28.0 µg/kg 2,3,4,4',5-Pentachlorobiphenyl (PCB 114) ..... 128 ± 3.69 µg/kg 3,3',4,4',5-Pentachlorobiphenyl (PCB 126) ..... 124 ± 23.3 µg/kg 2,2',3,4,4',5'-Hexachlorobiphenyl (PCB 138) ..... 265 ± 84.9 µg/kg 2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153) ..... 204 ± 74.9 µg/kg 2,3,3',4,4',5'-Hexachlorobiphenyl (PCB 157) ..... 241 ± 101 µg/kg 2,3,3',4,4',5-Hexachlorobiphenyl (PCB 156) ..... 211 ± 60.3 µg/kg 2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167) ..... 225 ± 35.0 µg/kg 3,3',4,4',5,5'-Hexachlorobiphenyl (PCB 169) ..... 178 ± 32.9 µg/kg 2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180) ..... 287 ± 66.5 µg/kg 2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189) ..... 204 ± 35.7 µg/kg PCB (156)+(157) ..... 450 ± 29.7 µg/kg	50 g

Soils

Code	Product	Unit
RTC-SQC068-50G	Soil - PCB Congeners Certified values Lot 019678	50 g

PCBs, total	1,910 ± 222 µg/kg
2,4,4'-Trichlorobiphenyl (PCB 28)	263 ± 39.3 µg/kg
3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	332 ± 59.9 µg/kg
3,4,4',5-Tetrachlorobiphenyl (PCB 81)	37.1 ± 12.0 µg/kg
2,2',4,5,5'-Pentachlorobiphenyl (PCB 101)	197 ± 53.7 µg/kg
2,3,3',4,4'-Pentachlorobiphenyl (PCB 105)	22.0 ± 2.24 µg/kg
2,3',4,4',5-Pentachlorobiphenyl (PCB 118)	194 ± 8.50 µg/kg
2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	65.3 ± 8.06 µg/kg
3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	271 ± 18.9 µg/kg
2,2',3,4,4',5'-Hexachlorobiphenyl (PCB 138)	129 ± 98.7 µg/kg
2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)	82.4 ± 1.83 µg/kg
2,3,3',4,4',5-Hexachlorobiphenyl (PCB 156)	89.2 ± 17.9 µg/kg
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	237 ± 9.40 µg/kg
3,3',4,4',5,5'-Hexachlorobiphenyl (PCB 169)	65.9 ± 6.29 µg/kg
2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180)	44.0 ± 3.20 µg/kg
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)	232 ± 7.50 µg/kg

Code	Product	Unit
RTC-CRM981-10G	Dioxin in Soil Certified values Lot 013623	10 g

1,2,3,4,6,7,8-HpCDF	789 ± 50.7 pg/g	1,2,3,4,6,7,8,9-OCDD	305 ± 36.9 pg/g
1,2,3,4,6,7,8-HpCDD	196 ± 12.4 pg/g	1,2,3,7,8-PeCDD	83.9 ± 8.43 pg/g
HpCDD (total)	196 ± 11.0 pg/g	PeCDD (total)	95.4 ± 2.34 pg/g
HpCDF (total)	796 ± 54.3 pg/g	2,3,7,8-TCDD	804 ± 57.6 pg/g
1,2,3,4,7,8-HxCDD	479 ± 40.5 pg/g	2,3,7,8-TCDF	306 ± 28.9 pg/g
1,2,3,6,7,8-HxCDD	87.0 ± 11.0 pg/g	TCDF (total)	323 ± 30.0 pg/g
1,2,3,7,8,9-HxCDD	908 ± 55.5 pg/g	TCDD (total)	804 ± 56.9 pg/g
HxCDD (total)	1430 ± 137 pg/g	PCDD (total)	2750 ± 136 pg/g
1,2,3,4,7,8-HxCDF	228 ± 13.0 pg/g	PCDD + PCDF (total)	4690 ± 275 pg/g
HxCDF (total)	235 ± 10.2 pg/g	PCDF (total)	1950 ± 183 pg/g
1,2,3,4,6,7,8,9-OCDF	700 ± 64.3 pg/g		

Code	Product	Unit
RTC-CLNLOAM6-100G	Clean Loam Soil Metals analysis	100 g

Al	3860 mg/kg	K	5.72 mg/kg
As	2.0 mg/kg	Mg	28.0 mg/kg
Ba	5.0 mg/kg	Mn	97.3 mg/kg
Ca	20.5 meq/L	Na	38.7 mg/kg
Cation exchange capacity	13.9 meq/100g	Se	0.40 mg/kg
Fe	383 mg/kg	V	1.8 mg/kg
Hg	0.03 mg/kg	Zn	2.13 mg/kg

Soil analysis

Carbon (total)	183 µg/g	pH	7.2 units
Carbonate (total as $CaCO_3$)	4.6 %	Solids	99.0 %
Conductivity (25°C)	14.9 mmhos/cm	Sulfate (soluble in Water)	100 mg/kg
Exchangeable acidity	11.3 meq/100g	Sulfur (total)	0.1 %
Organic matter	1.85 %		

Wet chemistry

Nitrate as N (soluble in water)	30.3 mg/kg	Phosphorus (extractable)	1.0 mg/kg
Nitrogen (total Kjeldahl)	0.13 %	Phosphorus (total)	0.02 %
Nitrogen (ammonia, KCl)	0.02 mg/kg		

Code	Product	Unit
RTC-CLNLOAM6-250G	Clean Loam Soil 250G	250 g
RTC-PB2000-50G	Lead - Clay Loam 1 Lot 001932	50 g

Lead, Pb	2,000 ± 30.6 mg/kg

Code	Product	Unit
RTC-PB3000-50G	Lead - Soil Lot 015429	50 g

Lead, Pb	2,980 ± 146 mg/Kg

Code	Product	Unit
RTC-SQC014-100G	Soil - Nutrients Lot 015915 Certified values	100 g

Ammonia as N	2160 ± 166 mg/kg	Phosphorus, total	490 ± 47.8 mg/kg
COD	16000 ± 1030 mg/kg	TOC	6510 ± 1000 mg/kg
Kjeldahl nitrogen, total	3270 ± 285 mg/kg		

Sewage sludges

Code	Product	Unit
RTC-CRM009-100G	Trace Metals - Electroplating Sludge 1	100 g

Lot Y009

Certified values

Cr (total)	50.3 ± 4.26 mg/kg	Ni	343 ± 8.12 mg/kg
Cu	121000 ± 3046 mg/kg	Ag	8.90 ± 1.66 mg/kg
Pb	14200 ± 406 mg/kg		

Informational values

Al	894 mg/kg	Mn	37 mg/kg
As	23 mg/kg	Mo	22 mg/kg
B	150 mg/kg	Na	18400 mg/kg
Ba	48 mg/kg	P	<10 mg/kg
Be	<1.0 mg/kg	Sb	9 mg/kg
Ca	1140 mg/kg	Se	<0-1 mg/kg
Cd	1 mg/kg	Sn	38500 mg/kg
Co	7 mg/kg	Sr	26 mg/kg
Fe	3820 mg/kg	Tl	26 mg/kg
Hg	1 mg/kg	V	1 mg/kg
K	638 mg/kg	Zn	43 mg/kg
Mg	155 mg/kg	pH	7.99 units

Code	Product	Unit
RTC-CRM010-100G	Trace Metals - Electroplating Sludge 2	100 g

Lot RY010

Certified values

Ag	56.4 ± 2.13 mg/kg	Fe	2700 ± 274 mg/kg
Al	693 ± 27.7 mg/kg	Mn	17.5 ± 0.677 mg/kg
Ba	173 ± 8.12 mg/kg	Ni	194 ± 5.08 mg/kg
Ca	563 ± 11.2 mg/kg	Pb	119000 ± 9475 mg/kg
Cr (total)	79.5 ± 4.74 mg/kg	Zn	183 ± 13.9 mg/kg
Cu	63200 ± 812 mg/kg		

Informational values

Hg	1.4 mg/kg	Na	1580 mg/kg
Mg	80.0 mg/kg	pH	3.86 units

Code	Product	Unit
RTC-CRM011-100G	Trace Metals - Electroplating Sludge 3	100 g

Lot RY010

Certified values

Cr (total)	59200 ± 1760 mg/kg	Ni	42000 ± 1557 mg/kg
Cu	108 ± 14.9 mg/kg	Pb	269 ± 23.7 mg/kg

Informational values

Ag	1 mg/kg	Mg	46 mg/kg
Al	18 mg/kg	Mn	34 mg/kg
As	23 mg/kg	Na	23100 mg/kg
B	17600 mg/kg	P	<10 mg/kg
Ba	5 mg/kg	Sb	13 mg/kg
Be	<1.0 mg/kg	Sn	119 mg/kg
Ca	179 mg/kg	Sr	1 mg/kg
Cd	4 mg/kg	Tl	20 mg/kg
Co	9 mg/kg	V	23 mg/kg
Fe	4670 mg/kg	Zn	<20 mg/kg
Hg	9 mg/kg	pH	3.46 units
K	49000 mg/kg		

Code	Product	Unit
RTC-CRM018-50G	Trace Metals - Wet Sewage Sludge	50 g

Certified values

Ag	72.1 ± 4.23 mg/kg	K	2660 ± 249 mg/kg
Al	22400 ± 836 mg/kg	Mg	4300 ± 249 mg/kg
As	6.63 ± 1.08 mg/kg	Mn	200 ± 5.58 mg/kg
Ba	1100 ± 45.0 mg/kg	Mo	10.5 ± 1.53 mg/kg
Be	0.300 ± 0.0440 mg/kg	Na	1000 ± 86.0 mg/kg
Ca	49100 ± 1685 mg/kg	Ni	20.4 ± 1.18 mg/kg
Cd	5.57 ± 0.355 mg/kg	Pb	126 ± 3.42 mg/kg
Co	3.22 ± 0.403 mg/kg	Se	8.38 ± 1.54 mg/kg
Cu	840 ± 30.3 mg/kg	Sr	420 ± 18.1 mg/kg
Fe	9900 ± 707 mg/kg	V	39.2 ± 1.74 mg/kg
Hg	4.78 ± 0.663 mg/kg	Zn	1120 ± 50.4 mg/kg

Informational values

B	25.8 mg/kg	TOC	15.4 mg/kg
Sb	<2.0 mg/kg	Nitrogen, total Kjeldahl	2.6 wt%
Si	609 mg/kg	P (total)	2.29 wt%
Tl	<1.0 mg/kg	Solids (total)	55.3 wt%
Ammonia as N	7170 mg/kg		

Code	Product	Unit
WEPAL-MARSEP-202	Compost - Inorganic composition (please ask for detailed information)	20 g

Plants

Code	Product	Unit
WEPAL-MARSEP-205	Compost - Inorganic composition (please ask for detailed information)	20 g
WEPAL-MARSEP-207	Sewage sludge - Inorganic composition (please ask for detailed information)	20 g
WEPAL-MARSEP-208	Sewage sludge - Inorganic composition (please ask for detailed information)	20 g
WEPAL-MARSEP-217	Sewage sludge - Inorganic composition (please ask for detailed information)	20 g
WEPAL-MARSEP-223	Compost - Inorganic composition (please ask for detailed information)	20 g
WEPAL-MARSEP-241	Champost - Inorganic composition (please ask for detailed information)	20 g
WEPAL-MARSEP-247	Sewage sludge - Inorganic composition (please ask for detailed information)	20 g
WEPAL-MARSEP-249	Sewage sludge - Inorganic composition (please ask for detailed information)	20 g

Plants

Trees and bushes

Code	Product	Unit
IC-INCT-PVTL-6	Polish Virginia Tobacco Leaves	50 g

Certified values

Ca	2.297 ± 0.078 %	As	138 ± 10 ng/g
K	2.640 ± 0.090 %	Ce	743 ± 51 ng/g
Mg	0.241 ± 0.009 %	Co	154 ± 7 ng/g
P	0.242 ± 0.015 %	Er	18.5 ± 3.2 ng/g
S	0.378 ± 0.059 %	Eu	14.0 ± 2.6 ng/g
Al	252 ± 49 mg/kg	Hf	161 ± 8 ng/g
B	33.4 ± 1.9 mg/kg	Hg	23.2 ± 1.6 ng/g
Ba	41.6 ± 1.9 mg/kg	La	540 ± 27 ng/g
Br	19.5 ± 1.0 mg/kg	Mo	396 ± 29 ng/g
Cd	2.23 ± 0.12 mg/kg	Nd	322 ± 24 ng/g
Cu	5.12 ± 0.2 mg/kg	Pb	972 ± 147 ng/g
Li	3.35 ± 0.67 mg/kg	Sb	37.2 ± 3.9 ng/g
Mn	136 ± 5 mg/kg	Sc	59.5 ± 3.4 ng/g
Ni	1.49 ± 0.14 mg/kg	Sm	58.0 ± 4.3 ng/g
Rb	5.97 ± 0.28 mg/kg	Ta	10.9 ± 1.2 ng/g
Sr	133 ± 6 mg/kg	Tb	8.1 ± 1.0 ng/g
Zn	43.6 ± 1.4 mg/kg	Th	88.8 ± 6.8 ng/g
Ag	19.1 ± 3.8 ng/g	V	405 ± 56 ng/g

Indicative values for Bi, Cl, Cr, Cs, Fe, Na, Pr, Sn, Ti, Tl, U, Y and Yb

Aquatic plants

Code	Product	Unit
NMIJ CRM 7405-A	Seaweed - Trace Elements and Arsenic Compound (Hijiki)	20 g

Certified values (g/kg)

Ca 15.2 ± 0.3 g/kg	K 47.5 ± 0.7 g/kg	P 1.01 ± 0.03 g/kg
Na 16.2 ± 0.2 g/kg	Mg 6.79 ± 0.10 g/kg	Sr 1.47 ± 0.04 g/kg

Certified values (mg/kg)

Al 147 ± 7 mg/kg	Co 1.07 ± 0.06 mg/kg	Mn 14.1 ± 0.7 mg/kg
As 35.8 ± 0.9 mg/kg	Cr 3.4 ± 0.1 mg/kg	Ni 2.2 ± 0.1 mg/kg
Ba 14.6 ± 0.3 mg/kg	Cu 1.55 ± 0.07 mg/kg	Pb 0.43 ± 0.03 mg/kg
Cd 0.79 ± 0.02 mg/kg	Fe 311 ± 11 mg/kg	Zn 13.4 ± 0.5 mg/kg

Certified arsenic compounds (mg/kg)

As(V) 10.1 ± 0.5 mg/kg

Miscellaneous

WEPAL plant reference materials

Code	Product	Unit
WEPAL-IPE-106	Alpine grass mixture / Poaceae - Inorganic composition (please ask for detailed information)	10 g

Occupational hygiene reference materials

Code	Product	Unit
CNRL-SRM-LEGDNA-01	Material of Legionella pneumophila DNA - Certified Genome Units (GU) number DNA quantity per tube Certified value $10.6 \times 10^6 \pm 1.7 \times 10^6$ Genome Units (GU)	tube
CNRL-CQE-LEGDNA-01	Material of Legionella pneumophila DNA - Qualitative control (calibrated by primary measurement standard) This control was calibrated with the primary standard DNA, the DNA quantity per tube is 3×10^4 GU	tube
CNRL-SRM-CQE-LEGDNA-01	Material of Legionella pneumophila DNA Set of CRM (1 unit) and Quality control standard (4 units) Each set consists of CNRL-SRM-LEGDNA-01 Certified reference material.....1 tube CNRL-CQE-LEGDNA-01 Qualitative control .....4 tubes	set

Food matrix reference materials

Milk and milk products

Code	Product	Unit
ERM-BB492-3	Partially skimmed milk powder - Oxytetracycline Set of ERM-BB-492 and ERM-BB -493 One unit contains approximately 5.5 g of spray-dried partially skimmed milk filled under inert gas in a 30 mL amber glass vial. The water mass fraction of the spray-dried powder is 2.5 ± 0.08 g/100g. ERM-BB-492 Certified value Oxytetracyline.... 101 ± 11 µg/kg (sum of oxytetracycline and 4-epioxytetracycline) ERM-BB -493 Certified value Oxytetracyline.....<5 µg/kg (sum of oxytetracycline and 4-epioxytetracycline)	set
ERM-BD600	Whole milk powder - Vitamins A (all-*trans*-retinol)..... 3.8 ± 0.6 mg/kg A (all-*trans*-retinol & 13-*cis*-retinol). 4.1 ± 0.8 mg/kg B_1 (thiamin) ..... 4.5 ± 0.6 mg/kg B_2 (riboflavin)..... 16.7 ± 1.4 mg/kg B_{12} (cyanocobalamin) ..... 0.32 ± 0.07 mg/kg C (total ascorbate)..... 74 ± 11 mg/kg E (tocopherol)..... 86 ± 15 mg/kg	100 g

Code	Product	Unit
NIST-1849A	Infant/Adult nutritional powder (milk) - Trace elements, proximates and nutrients	10 x 10 g

NIST-1849a is intended primarily for validation of methods for determining proximates, fatty acids, vitamins, elements, amino acids and nucleotides in infant and adult nutritional formulas and similar materials. It can also be used for quality assurance when assigning values to in-house reference materials. This material is a milk-based, hybrid infant/adult nutritional powder prepared by a manufacturer of infant formula and adult nutritional products. A unit of NIST-1849a consists of 10 packets, each containing approximately 10 g of material.

Certified mass fraction values for fatty acids as free fatty acids and cholesterol

Octanoic acid (C8:0) ..... 0.588 ± 0.049%
(Caprylic acid)
Dodecanoic acid (C12:0) ..... 2.877± 0.092%
(Lauric acid)
Tetradecanoic acid (C14:0) ..... 0.968 ± 0.032%
(Myristic acid)
(Z)-9-Tetradecenoic acid (C14:1) ..... 0.0023 ± 0.0001%
(Miyristoleic acid)
Hexadecanoic acid (C16:0) ..... 1.99 ± 0.22 %
(Palmitic acid)
(Z)-9-Hexadecenoic acid (C16:1 n-7) ..... 0.0221 ± 0.0014%
(Palmitoleic acid)
Octadecanoic acid (C18:0) ..... 0.835 ± 0.017%
(Stearic acid)
(Z)-9-Octadecenoic acid ..... 10.2 ± 1.1%
(C18:1 n-9) (Oleic acid)
(Z)-11-Octadecenoic acid (C18:1 n-7) ..... 0.2034 ± 0.0068%
(Vaccenic acid)
(Z,Z)-9,12-Octadecadienoic acid (C18:2 n-6) ..... 5.24 ± 0.42%
(Linoleic acid)
(Z,Z,Z)-9,12,15-Octadecatrienoic acid (C18:3 n-3) ..... 0.516 ± 0.050%
(α-Linolenic acid)
Eicosanoic acid (C20:0) ..... 0.0808 ± 0.0026%
(Arachidic acid)
(Z)-11 Eicosenoic acid (C20:1 n-9) ..... 0.0589 ± 0.0037%
(Gondoic acid)
Docosanoic acid (C22:0) ..... 0.0642 ± 0.024%
(Behenic acid)
Tetracosanoic acid (C24:0) ..... 0.0333 ± 0.0016%
(Lignoceric acid)
(Z)-15-Tetracosenoic acid (C24:1 n-9) ..... 0.0207 ± 0.0015%
(Nervonic acid)

Certified mass fraction values for selected elements

Ca	5253 ± 51 mg/kg	Mo	1.707 ± 0.040 mg/kg
Cu	19.78 ± 0.26 mg/kg	P	3990 ± 140 mg/kg
Cr	1.072 ± 0.032 mg/kg	K	9220 ± 110 mg/kg
Fe	175.6 ± 2.9 mg/kg	Se	0.812 ± 0.029 mg/kg
Mg	1648 ± 36 mg/kg	Na	4265 ± 83 mg/kg
Mn	49.2 ± 1.4 mg/kg	Zn	151.0 ± 5.6 mg/kg

Certified concentrations for selected vitamins

Ascorbic acid (Vitamin C) ..... 784 ± 65 mg/kg
Thiamine (Vitamin B1) Hydrochloride ..... 12.57 ± 0.98 mg/kg
Riboflavin (Vitamin B2) ..... 20.37 ± 0.52 mg/kg
Niacinamide ..... 109 ± 10 mg/kg
Pantothenic acid ..... 68.2 ± 1.9 mg/kg
Pyridoxine (Vitamin B6) Hydrochloride ..... 13.46 ± 0.93 mg/kg
Folic acid ..... 2.293 ± 0.062 mg/kg
Biotin ..... 1.99 ± 0.13 mg/kg
Choline ion ..... 1090 ± 110 mg/kg
Carnitine ..... 136 ± 14 mg/kg
Retinol (Vitamin A) ..... 7.68 ± 0.23 mg/kg

Cholecalciferol (Vitamin D3) ..... 0.111 ± 0.017 mg/kg
Phylloquinone (Vitamin K1) ..... 1.06 ± 0.17 mg/kg

Reference values for selected fatty acids as triglycerides, proximate, cholesterol, lactose, and calories, selected vitamins, amino acids and nucleotides

Reference values for selected fatty acids as triglycerides, proximate, cholesterol, lactose, and calories, selected vitamins, amino acids and nucleotides

MUVA reference materials

Code	Product	Unit
MUVA-BR-1002	Boiled Sausage Best before: 06/2013 Reference value Fat ..... 23.99 ± 0.83 g/100 g Water (103 °C) ..... 58.85 ± 0.41 g/100 g Protein (Kjeldahl)..... 13.77 ± 0.34 g/100 g Hydroxyproline..... 0.32 ± 0.06 g/100 g Sodium chloride..... 2.08 ± 0.06 g/100 g Ash ..... 2.60 ± 0.03 g/100g	125 g
MUVA-BU-1306	Sweet cream butter Best before 06/2013 Reference values Solids non-fat (102 °C)..... 1.70 ± 0.08 g/100 g Water (102 °C) ..... 15.83 ± 0.04 g/100 g pH-value ..... 6.73 ± 0.02 Cholesterol ..... 2291 ± 68mg/kg	250 g
MUVA-CA-0902	Sodium caseinate Best before: 12/2018 Reference values Fat (SBR) ..... 0.90 ± 0.06 g/100 g Water ..... 5.05 ± 0.10 g/100 g Protein (Kjeldahl)..... 89.89 ± 0.43 g/100 g Lactose (Monohydrate)..... 0.46 ± 0.08 g/100 g Ash ..... 4.09 ± 0.07 g/100 g	50 g
MUVA-FK-1210	Fresh cheese 60% f.i.d.m. Best before 02/2014 Reference values Fat (SBR) ..... 18.95 ± 0.10 g/100 g Dry matter (102 °C) ..... 29.71 ± 0.20 g/100 g Protein (Kjeldahl)..... 5.65 ± 0.07 g/100 g Lactic acid (enzyme) ..... 505 ± 19 mg/100 g	200 g
MUVA-FS-1905	Apple juice (Sugars) Best before: 03/2014 Reference value Glucose ..... 22.21 ± 0.73 g/l Fructose ..... 59.46 ± 0.58 g/l Titratable acid..... 85.36 ± 0.92 mmol H+/l pH-value ..... 3.47 ± 0.02 Ethanol ..... 268.0 ± 16.4 mg/l Patulin ..... 49.3 ± 4.0 µg/l Soluble solids .....10.45 ± 0.17 °Brix	200 g
MUVA-FS-1906	Grape juice Best before: 03/2014 Reference value Glucose ..... 70.59 ± 0.95 g/l Fructose ..... 72.33 ± 0.79 g/l Titratable acid..... 85.80 ± 0.82 mmol H^+/l pH-value ..... 3.43 ± 0.02 Ethanol ..... 513.5 ± 11.6 mg/l Sulphite ..... 169.9 ± 10.9 mg/l Soluble solids .....15.21 ± 0.10 °Brix	200 mL
MUVA-HA-1507	Hard cheese (type Parmesan) Best before: 4 weeks after shipment Reference values Fat (SBR) ..... 27.01 ± 0.28 g/100 g Dry matter (102 °C) ..... 68.55 ± 0.20 g/100 g Protein (Kjeldahl)..... 34.87 ± 0.12 g/100 g Sodium chloride..... 1.14 ± 0.04 g/100 g pH value ..... 5.48 ± 0.02	100 g
MUVA-HA-1508	Hard cheese (type Parmesan) Best before: 4 weeks after shipment Reference values Fat (SBR) ..... 27.53 ± 0.14 g/100 g Dry matter (102 °C) ..... 69.73 ± 0.11 g/100 g Protein (Kjeldahl)..... 35.37 ± 0.13 g/100 g Sodium chloride..... 1.41 ± 0.03 g/100 g pH value ..... 5.47 ± 0.02	100 g
MUVA-KI-1102	Infant Food Best before: 02/2015 Reference values Saccharose ..... 4.02 ± 0.08 g/100g Fructose ..... 1.05 ± 0.04 g/100g Glucose ..... 2.44 ± 0.05 g/100g Starch ..... 25.28 ± 0.94g/100g Vitamin C..... 86.79 ± 6.77mg/100g Vitamin E..... 10.63 ± 0.25mg/100g	60 g

MUVA reference materials

Code	Product	Unit
MUVA-KM-0505	Coffee Cream (10 % fat) Best before: 02/2014 Reference values Fat (Röse-Gottlieb) ..... 10.13 ± 0.05 g/100 g Dry matter (102 °C) ..... 18.43 ± 0.12 g/100 g Protein (Kjeldahl) ..... 3.22 ± 0.02 g/100 g Ash ..... 0.67 ± 0.01 g/100 g Phosphorus ..... 876.5 ± 35.6 mg/kg	100 mL
MUVA-KM-0507	Evaporated milk (8% fat) Best before 01/2015 Reference values Fat (Röse-Gottlieb) ..... 7.97 ± 0.03 g/100 g Dry matter (102 °C) ..... 25.45 ± 0.06 g/100 g Protein (Kjeldahl) ..... 6.10 ± 0.01 g/100 g Ash ..... 1.35 ± 0.02 g/100 g Phophorus ..... 1870 ± 77 mg/kg	170 g
MUVA-MP-0203	Milk powder, roller dried Best before: 12/2017 Reference values Fat (Röse-Gottlieb) ..... 26.89 ± 0.06 g/100 g Free Fat ..... 21.27 ± 0.09 g/100 g Dry matter (102 °C) ..... 97.46 ± 0.06 g/100 g Protein (Kjeldahl) ..... 24.68 ± 0.06 g/100 g Lactose (Monohydrate) ..... 40.18 ± 0.40 g/100 g Ash ..... 5.79 ± 0.03 g/100 g	80 g
MUVA-MP-0205	Milk powder, spray dried Best before: 12/2019 Reference values Fat (Röse-Gottlieb) ..... 26.67 ± 0.15 g/100 g Free Fat ..... 9.65 ± 1.77 g/100 g Dry matter (102 °C) ..... 96.17 ± 0.07 g/100 g Protein (Kjeldahl) ..... 27.28 ± 0.10 g/100 g Lactose (Monohydrate) ..... 36.81 ± 0.74 g/100 g Ash ..... 5.66 ± 0.04 g/100 g	80 g
MUVA-MP-0207	Cream powder, roller dried Best before: 06/2019 Reference values Fat (Röse-Gottlieb) ..... 43.38 ± 0.15 g/100 g Free Fat ..... 40.48 ± 0.14 g/100 g Dry matter (102 °C) ..... 98.77 ± 0.04 g/100 g Protein (Kjeldahl) ..... 21.37 ± 0.08 g/100 g Lactose (Monohydrate) ..... 28.05 ± 0.42 g/100 g Ash ..... 4.55 ± 0.06 g/100 g	80 g
MUVA-R-0422	Cream (30% fat) Best before: 06/2014 Reference values Fat (SBR) ..... 30.30 ± 0.17 g/100 g Dry matter (102 °C) ..... 37.10 ± 0.17 g/100 g Protein (Kjeldahl) ..... 2.41 ± 0.01 g/100 g	100 mL
MUVA-R-0423	Cream (40% fat) Best before: 06/2014 Reference values Fat (SBR) ..... 41.37 ± 0.33 g/100 g Dry matter (102 °C) ..... 47.14 ± 0.05 g/100 g Protein (Kjeldahl) ..... 2.03 ± 0.02 g/100 g	100 mL
MUVA-FM-2001	Fatty acid distribution Best before: 12/2019 Reference values Butyric acid (C4) ..... 3,68 ± 0,24 g/100 g Caproic acid (C6) ..... 2,15 ± 0,12 g/100 g Caprylic acid (C8) ..... 1,29 ± 0,06 g/100 g Capric acid (C10) ..... 2,80 ± 0,14 g/100 g Lauric acid (C12) ..... 3,34 ± 0,17 g/100 g Myristic acid (C14) ..... 11,23 ± 0,50 g/100 g Myristoleic acid (C14:1) ..... 1,07 ± 0,07 g/100 g Palmetic acid (C16) ..... 28,85 ± 1,24 g/100 g Palmitoleic acid (C16:1) ..... 1,74 ± 0,11 g/100 g Stearic acid (C18) ..... 8,89 ± 0,39 g/100 g Oleic acid (C18:1 cis) ..... 20,66 ± 0,42 g/100 g Elaidic acid (C18:1 trans) ..... 3,06 ± 0,24 g/100 g Linoleic acid (C18:2) ..... 2,37 ± 0,41 g/100 g Linolenic acid (C18:3) ..... 0,79 ± 0,11 g/100 g Arachidic acid (C20) ..... 0,13 ± 0,01 g/100 g Behenic acid (C22) ..... 0,06 ± 0,01 g/100 g Lignoceric acid (C24) ..... 0,04 ± 0,01 g/100 g	80 g
MUVA-MPK-0901	Whey Protein Concentrate Best before: 12/2017 Reference values Fat (Weibull) ..... 4.28 ± 0.07 g/100g Water (102 ˚C) ..... 4.03 ± 0.1 g/100g Protein (Kjeldahl) ..... 65.44 ± 0.47 g/100g Lactose (Monohydrate) ..... 19.05 ± 0.40 g/100g Ash ..... 3.94 ± 0.12 g/100g	50 g

Code	Product	Unit
MUVA-NEM-1603	Dietary Supplement Best before: 05/2016 Reference values Sodium ..... 1334 ± 29 mg/kg Potassium ..... 5605 ± 149 mg/kg Calcium ..... 4268 ± 109 mg/kg Magnesium ..... 437 ± 9.6 mg/kg Iron ..... 57.54 ± 6.36 mg/kg Chloride ..... 2846 ± 98 mg/kg Copper ..... 2.67 ± 0.77 mg/kg Manganese ..... 1.61 ± 0.12 mg/kg Zinc ..... 46.42 ± 1.26 mg/kg Phosphorus ..... 2860 ± 46 mg/kg	50 g
MUVA-RM 74	Whey powder Best before: 09/2013 Reference values Fat (Röse-Gottlieb) ..... 1.95 ± 0.12 g/100 g Dry matter (102 °C) ..... 96.15 ± 0.04 g/100 g Dry matter (87 °C) ..... 96.80 ± 0.09 g/100 g Protein (Kjeldahl) ..... 30.32 ± 0.63 g/100 g Lactose (Monohydrate) ..... 48.61 ± 0.44 g/100 g Ash ..... 8.41 ± 0.10 g/100 g Lactic acid ..... 1101 ± 60 mg/100 g Nitrate ..... 34.00 ± 3.15 mg/kg Calcium ..... 6603 ± 97 mg/kg Magnesium ..... 2120 ± 40 mg/kg NPN ..... 6.02 ± 0.15 g/kg	70 g
MUVA-RO-0722	Shock frozen raw milk Best before 10/2014 Reference values Fat (Röse-Gottlieb) ..... 5190 ± 0.008 g/100 g Dry matter (102 °C) ..... 14.74 ± 0.04 g/100 g Protein (Kjeldahl) ..... 3.837 ± 0.015 g/100 g Lactose (Monohydrate) ..... 4.935 ± 0.050 g/100 g Freezing point ..... -0.5521± 0.0009°C Urea ..... 231 ± 9 mg/l pH ..... 6.63 ± 0.01	40 ml
MUVA-S-0812	Chocolate Best before: 02/2014 Reference value Fat (Weibull-Stoldt) ..... 34.36 ± 0.15 g/100 g Milk fat ..... 5.29 ± 0.54 g/100 g Protein (Kjeldahl) ..... 6.64 ± 0.04 g/100 g Lactose (monohydrate) ..... 5.65 ± 0.12 g/100 g Saccharose ..... 44.68 ± 0.59 g/100 g Theobromine ..... 2464 ± 87mg/kg Dry matter ..... 99.49 ± 0.11g/100 g	100 g
MUVA-YO-1411	Yoghurt 1.8 % Best before: 06/2014 Reference values Fat (Röse-Gottlieb) ..... 1.79 ± 0.08 g/100 g Dry matter (102 °C) ..... 14.00 ± 0.11 g/100 g Protein (Kjeldahl) ..... 4.76 ± 0.04 g/100 g Lactic acid (enzyme) ..... 1103 ± 30 mg/100 g pH-value ..... 4.17 ± 0.02	500 g
MUVA-YO-1412	Yoghurt 4 % Best before: 06/2014 Reference values Fat (Röse-Gottlieb) ..... 3.95 ± 0.19 g/100 g Dry matter (102 °C) ..... 15.29 ± 0.17 g/100 g Protein (Kjeldahl) ..... 4.47 ± 0.03 g/100 g Lactic acid (enzyme) ..... 1021 ± 33 mg/100 g pH-value ..... 4.17 ± 0.01	500 g

Meat and meat products

Code	Product	Unit
ERM-BB184	Bovine muscle - Trace elements Certified values As ..... 0.0234 mg/kg Cd ..... 0.0022 mg/kg Cu ..... 2.31 mg/kg Fe ..... 75 mg/kg Mn ..... 0.276 mg/kg Se ..... 0.45 mg/kg Zn ..... 146 mg/kg Indicative values for Hg	7 g
ERM-BB186	Pig kidney - Trace elements Certified values Cd ..... 1.09 mg/kg Cu ..... 36.5 mg/kg Fe ..... 255 mg/kg Mn ..... 7.26 mg/kg Pb ..... 0.040 mg/kg Se ..... 10.3 mg/kg Zn ..... 134 mg/kg	10 g

Code	Product	Unit
ERM-BB430	Pork fat - Organochlorine pesticides The sample is a homogeneous pork fat spiked with organochlorine pesticides. Compound / Certified value mg/kg / Uncertainty mg/kg HCB 0.193 0.017 alpha-HCH 0.25 0.04 beta-HCH 0.109 0.010 beta-HEPO 0.213 0.016 p,p'-DDT 0.48 0.07 p,p'-DDD 0.222 0.022 p,p'-DDE 0.38 0.09	5 g
NCS ZC73035	Pork liver - Trace elements As 1.4±0.3 µg/g; Be 0.9±0.3 ng/g; Cd 1.00±0.07 µg/g; Co 0.057±0.004 ng/g; Cr 0.23±0.06 µg/g; Cs 0.070±0.007 ng/g; Cu 52±3 µg/g; Fe 519±34 µg/g; Hg 45±8 ng/g; K 0.66±0.03 %; Mg 0.063±0.004 %; Mn 10.1±0.4 µg/g; Mo 4.2±0.2 µg/g; Na 0.163±0.010 µg/g; P 1.14±0.06 %; Pb 0.12±0.03 µg/g; Rb 27±2 µg/g; S 0.80±0.12 %; Se 1.54±0.29 µg/g; Sr 0.51±0.04 µg/g; Tl 1.2±0.2 ng/g; U 3.2±0.9 ng/g; Zn 211±11 µg/g	35 g
LGC7220	Horse meat (100%)	10 g
LGC7221	Beef (100%)	10 g
LGC7222	Pork (100%)	10 g
LGC7240	Horse meat (1%) in beef, 3x2g	set
LGC7241	Horse meat (10%) in beef, 3x2g	set
LGC7242	Pork (1%) in beef, 3x2g	set
LGC7243	Pork (10%) in beef, 3x2g	set

Fish and fish products

Shellfish

Code	Product	Unit
NRCCRM-ASP-MUS-D	Mussel tissue - Domoic acid (amnesic toxin) A homogenised slurry of mussel tissue (*Mytilus edulis* L.). Certified value: Domoic acid + C5'-Epidomoic acid 49 µg/g	8 g
NRCCRM-AZA-MUS	Mussel tissue - Azaspiracids This certified reference material (CRM) is prepared from naturally contaminated mussel tissues *(Mytilus edulis)* containing azaspiracids. This CRM is designed to assist the analyst in assessing entire analytical methods used to monitor AZA toxins in shellfish tissues. Each bottle contains ~8 g of mussel homogenate with AZAs at levels appropriate for analytical testing. The certified values are: AZA1 1.16 µg/g; AZA2 0.273 µg/g; AZA3 0.211 µg/g	8 g

Code	Product	Unit
NIST-1974C	Mussel tissue (frozen) - PAHs, PCBs, Chlorinated Pesticides, PBDEs	5 x 10 g

Standard Reference Material NIST-1974c is a frozen mussel tissue homogenate intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine bivalve mollusk tissue and similar matrices. All of the constituents for which certified and reference values are provided in NIST-1974c were naturally present in the tissue material before processing. A unit of NIST-1974c consists of five jars each containing approximately 10 g (wet basis) of frozen tissue homogenate.

Certified concentrations for selected PAHs in NIST-1974c

	Mass Fractions in µg/kg	
	Wet-Mass Basis	Dry-Mass Basis
Fluorene	2.31 ± 0.04	22.6 ± 0.4
Dibenzothiophene	1.53 ± 0.02	15.0 ± 0.2
Phenanthrene	19.6 ± 0.4	191 ± 4
Anthracene	1.17 ± 0.08	11.4 ± 0.8
1-Methylphenanthrene	3.07 ± 0.11	30.0 ± 1.1
2-Methylphenathrene	4.56 ± 0.04	44.5 ± 0.5
3-Methylphenanthrene	4.09 ± 0.03	39.9 ± 0.4
9-Methylphenanthrene	2.46 ± 0.02	24.0 ± 0.3
2-Methylanthracene	0.951 ± 0.007	9.2 ± 0.1
Fluoranthene	45.3 ± 0.8	442 ± 9
Pyrene	23.9 ± 1.6	233 ± 15
Benzo[ghi]fluoranthene	3.03 ± 0.09	29.5 ± 0.9
Benzo[c]phenanthrene	1.99 ± 0.04	19.4 ± 0.4
Benz[a]anthracene	5.69 ± 0.11	55.5 ±1.1
Benzo[k]fluoranthene	2.75 ± 0.02	26.8 ± 0.3
Benzo[a]fluoranthene	0.543 ± 0.006	5.30 ± 0.07
Benzo[e]pyrene	7.33 ± 0.05	71.6 ± 0.7
Benzo[a]pyrene	2.32 ± 0.03	22.6 ± 0.3
Perylene	0.560 ± 0.022	5.46 ± 0.22
Benzo[ghi]perylene	2.82 ± 0.05	27.6 ± 0.5
Benzo[b]chrysene	0.694 ± 0.013	6.77 ± 0.13
Picene	1.36 ± 1.6	13.2 ± 0.8

Certified concentrations for selected PCB congeners in NIST-1974c

		Mass Fractions in µg/kg	
		Wet-Mass Basis	Dry-Mass Basis
PCB 8	2,4‘- Dichlorobiphenyl	0.191 ± 0.003	1.86 ± 0.03
PCB 18	2,2',5-Trichlorobiphenyl	0.589 ± 0.007	5.75 ± 0.08
PCB 28	2,4,4'-Trichlorobiphenyl	1.47 ± 0.02	14.4 ± 0.2
PCB 31	2,4',5-Trichlorobiphenyl	1.16 ± 0.06	11.3 ± 0.6
PCB 44	2,2'3,5'-Tetrachlorobiphenyl	1.54 ± 0.08	15.1 ± 0.8
PCB 45	2,2'3,6-Tetrachlorobiphenyl	0.214 ± 0.019	2.09 ± 0.18
PCB 49	2,2'4,5'-Tetrachlorobiphenyl	1.76 ± 0.02	17.1 ± 0.2
PCB 52	2,2',5,5'-Tetrachlorobiphenyl	2.49 ± 0.06	24.3 ± 0.6
PCB 56	2,3,3‘,4‘-Tetrachlorobiphenyl	0.663 ± 0.008	6.46 ± 0.09
PCB 63	2,3,4‘,5-Tetrachlorobiphenyl	0.137 ± 0.013	1.34 ± 0.13
PCB 66	2,3',4,4'-Tetrachlorobiphenyl	1.65 ± 0.02	16.1 ± 0.2
PCB 70	2,3’,4’,5-Tetrachlorobiphenyl	1.57 ± 0.05	15.3 ± 0.5
PCB 74	2,4,4’,5-Tetrachlorobiphenyl	0.850 ± 0.011	8.29 ± 0.12
PCB 82	2,2’,3,3’,4-Pentachlorobiphenyl	0.507 ± 0.008	4.95 ± 0.09
PCB 87	2,2',3,4,5'-Pentachlorobiphenyl	2.08 ± 0.02	20.3 ± 0.2
PCB 92	2,2',3,5,5‘-Pentachlorobiphenyl	1.06 ± 0.02	10.4 ± 0.2
PCB 95	2,2',3,5‘,6-Pentachlorobiphenyl	1.82 ± 0.02	17.8 ± 0.2
PCB 99	2,2',4,4',5-Pentachlorobiphenyl	3.55 ± 0.05	34.7 ± 0.6
PCB 101	2,2',4,5,5'-Pentachlorobiphenyl	6.67 ± 0.05	65.1 ± 0.7
PCB 105	2,3,3',4,4'-Pentachlorobiphenyl	1.57 ± 0.03	15.3 ± 0.3
PCB 110	2,3,3',4',6-Pentachlorobiphenyl	5.47 ± 0.06	53.4 ± 0.7
PCB 118	2,3',4,4',5-Pentachlorobiphenyl	4.08 ± 0.09	39.8 ± 0.9
PCB 128	2,2',3,3',4,4'-Hexachlorobiphenyl	0.801 ± 0.011	7.81 ± 0.11
PCB 138	2,2',3,4,4',5'-Hexachlorobiphenyl	4.39 ± 0.04	42.9 ± 0.5
PCB 146	2,2’,3,4’,5,5’-Hexachlorobiphenyl	0.904 ± 0.005	8.82 ± 0.09
PCB 149	2,2',3,4',5',6-Hexachlorobiphenyl	3.97 ± 0.04	39.8 ± 0.5
PCB 151	2,2’,3,5,5’,6-Hexachlorobiphenyl	1.13 ± 0.03	11.0 ± 0.3
PCB 153	2,2',4,4',5,5'-Hexachlorobiphenyl	6.76 ± 0.12	66.0 ± 1.3
PCB 156	2,3,3',4,4',5-Hexachlorobiphenyl	0.253 ± 0.005	2.47 ± 0.05
PCB 158	2,3,3’,4,4’,6-Hexachlorobiphenyl	0.443 ± 0.003	4.33 ± 0.04
PCB 163	2,3,3’,4‘,5,6-Hexachlorobiphenyl	1.10 ± 0.09	10.8 ± 0.9
PCB 170	2,2',3,3',4,4',5-Heptachlorobiphenyl	0.105 ± 0.009	1.03 ± 0.09
PCB 177	2,2‘3,3’,4‘5,6- Heptachlorobiphenyl	0.696 ± 0.011	6.79 ± 0.12
PCB 178	2,2‘,3,3’,5,5‘,6 - Heptachlorobiphenyl	0.350 ± 0.011	3.42 ± 0.04
PCB 180	2,2',3,4,4',5,5'-Heptachlorobiphenyl	0.594 ± 0.008	5.79 ± 0.09
PCB 183	2,2',3,4,4',5',6-Heptachlorobiphenyl	0.848 ± 0.006	8.27 ± 0.09
PCB 187	2,2',3,4',5,5',6-Heptachlorobiphenyl	2.09 ± 0.05	20.4 ± 0.5

Fish and fish products

Code	Product	Unit
NCS ZC73034	Prawn - Trace elements	12 g

B 2.0±0.3 µg/g	Gd 10.5±1.2 ng/g	Pb 0.20±0.05 µg/g
Ba 2.3±0.3 µg/g	Ge 6.0±1.4 ng/g	Pr 14.5±1.1 ng/g
Be 4.9±0.8 ng/g	Hg 49±8 ng/g	Rb 1.4±0.1 µg/g
Br 8.5±1.1 µg/g	Ho 1.5±0.2 ng/g	Sm 10.7±1.8 ng/g
Ca 0.30±0.01 %	K 0.49±0.01 %	Sr 20±2 µg/g
Cd 0.039±0.002 µg/g	La 0.066±0.005 ng/g	Tb 1.5±0.2 ng/g
Ce 0.13±0.03 ng/g	Li 0.15±0.01 µg/g	Th 28±8 ng/g
Co 0.044±0.005 ng/g	Lu 0.64±0.21 ng/g	Tl 2.0±0.5 ng/g
Cr 0.35±0.11 µg/g	Mg 0.169±0.006 %	Tm 0.69±0.18 ng/g
Cs 0.027±0.002 ng/g	Mn 8.9±0.3 µg/g	U 9.7±0.8 ng/g
Cu 10.3±0.7 µg/g	Mo 0.037±0.012 µg/g	V 0.24±0.07 µg/g
Dy 7.9±0.5 ng/g	Na 0.31±0.02 µg/g	Y 0.09±0.02 µg/g
Er 4.4±0.4 ng/g	Nb 16.5±4.0 ng/g	Yb 4.1±0.8 ng/g
Eu 2.5±0.3 ng/g	Nd 0.056±0.006 ng/g	Zn 76±4 µg/g
Fe 112±12 µg/g	P 0.77±0.03 %	

Fish

ERM-BB422	Fish muscle - Trace elements	10 g

Certified values

As 12.7 mg/kg	I 1.4 mg/kg
Cd 0.0075 mg/kg	Mn 0.368 mg/kg
Cu 1.67 mg/kg	Se 1.33 mg/kg
Fe 9.4 mg/kg	Zn 16.0 mg/kg
Hg 0.601 mg/kg	

NRCDORM-4	Fish protein - Trace elements	20 g

Certified values

Arsenic 6.80 ± 0.64 mg/kg	Mercury 0.410 ± 0.055 mg/kg
Cadmium 0.306 ± 0.015 mg/kg	Nickel 1.36 ± 0.22 mg/kg
Copper 15.9 ± 0.9 mg/kg	Tin 0.056 ± 0.010 mg/kg
Chromium 1.87 ± 0.16 mg/kg	Selenium 3.56 ± 0.34 mg/kg
Iron 341 ± 27 mg/kg	Zinc 52.2 ± 3.2 mg/kg
Lead 0.416 ± 0.053 mg/kg	Methylmercury (as Hg) 0.354 ± 0.031 mg/kg

Code	Product	Unit
NIST-1588C	Cod liver oil - Organic contaminants	set (4)

This Standard Reference Material (SRM®) is intended for use in developing and validating analytical methods for the determination of polychlorinated biphenyls (PCBs), chlorinated pesticides, polybrominated diphenyl ethers (PBDEs), and fatty acids in fish oils and similar materials. NIST-1588c can be used for quality assurance when assigning values to in-house reference materials. A unit of NIST-1588c consists of five ampoules with each ampoule containing approximately 1.2 mL of fish oil.

Certified concentrations (mass fractions) for selected PCB congeners

PCB 44.....2,2',3,5'-Tetrachlorobiphenyl.....4.481 ± 0.083 µg/kg
PCB 49.....2,2',4,5'-Tetrachlorobiphenyl.....9.369 ± 0.078 µg/kg
PCB 52.....2,2',5,5'-Tetrachlorobiphenyl.....12.75 ± 0.19 µg/kg
PCB 56.....2,3,3‘4‘-Tetrachlorobiphenyl..... 4.20 ± 0.10 µg/kg
PCB 66.....2,3',4,4'-Tetrachlorobiphenyl..... 7.16 ± 0.15 µg/kg
PCB 70.....2,3',4,5'-Tetrachlorobiphenyl.....7.501± 0.071 µg/kg
PCB 74.....2,4,4‘,5-Tetrachlorobiphenyl ..... 4.13 ± 0.16 µg/kg
PCB 82.....2,2',3,3‘4-Pentachlorobiphenyl.....1.541± 0.035 µg/kg
PCB 87.....2,2',3,4,5'-Pentachlorobiphenyl..... 6.19 ± 0.11 µg/kg
PCB 92.....2,2',3,5,5‘-Pentachlorobiphenyl.....6.040 ± 0.068 µg/kg
PCB 95.....2,2',3,5',6-Pentachlorobiphenyl.....12.27 ± 0.65 µg/kg
PCB 99.....2,2',4,4',5-Pentachlorobiphenyl.....19.77 ± 0.38 µg/kg
PCB 101.....2,2',4,5,5'-Pentachlorobiphenyl.....22.94 ± 0.23 µg/kg
PCB 105.....2,3,3',4,4'-Pentachlorobiphenyl.....4.584 ± 0.058 µg/kg
PCB 107.....2,3,3',4‘5-Pentachlorobiphenyl.....3.012 ± 0.050 µg/kg
PCB 110.....2,3,3',4',6-Pentachlorobiphenyl.....20.10 ± 0.40 µg/kg
PCB 118.....2,3',4,4',5-Pentachlorobiphenyl.....15.04 ± 0.54 µg/kg
PCB 128.....2,2',3,3',4,4'-Hexachlorobiphenyl ..... 15.2 ± 1.2 µg/kg
PCB 130.....2,2',3,3',4‘,5-Hexachlorobiphenyl .....2.290 ± 0.049 µg/kg
PCB 137.....2,2',3,4,4',5-Hexachlorobiphenyl.....1.003 ± 0.034 µg/kg
PCB 138.....2,2',3,4,4',5'-Hexachlorobiphenyl .....25.22 ± 0.34 µg/kg
PCB 146.....2,2',3,4‘,4',5,5'-Hexachlorobiphenyl .....10.81 ± 0.33 µg/kg
PCB 149.....2,2',3,4',5',6-Hexachlorobiphenyl .....27.56 ± 0.27 µg/kg
PCB 151.....2,2',3,5,5',6-Hexachlorobiphenyl.....7.868 ± 0.092 µg/kg
PCB 153.....2,2',4,4',5,5'-Hexachlorobiphenyl .....57.38 ± 0.33 µg/kg
PCB 156.....2,3,3',4,4',5-Hexachlorobiphenyl..... 3.63 ± 0.14 µg/kg
PCB 157.....2,3,3',4,4',5‘-Hexachlorobiphenyl .....1.237 ± 0.027 µg/kg
PCB 158.....2,3,3',4,4',5-Hexachlorobiphenyl..... 4.37 ± 0.13 µg/kg
PCB 163.....2,3,3',4,4',5-Hexachlorobiphenyl.....11.13 ± 0.20 µg/kg
PCB 167.....2,3,3',4,4',5-Hexachlorobiphenyl.....3.177 ± 0.051 µg/kg
PCB 170.....2,2',3,3',4,4',5-Heptachlorobiphenyl..... 7.87 ± 0.15 µg/kg
PCB 172.....2,2',3,3',4,5,5‘-Heptachlorobiphenyl.....3.081 ± 0.064 µg/kg
PCB 174.....2,2',3,3',4,5,6‘-Heptachlorobiphenyl..... 17.3 ± 1.3 µg/kg
PCB 177.....2,2',3,3',4‘,5,6-Heptachlorobiphenyl.....11.07 ± 0.27 µg/kg
PCB 178.....2,2',3,3',5,5‘,6-Heptachlorobiphenyl.....10.26 ± 0.27 µg/kg
PCB 180.....2,2',3,4,4',5,5'-Heptachlorobiphenyl.....14.21 ± 0.25 µg/kg
PCB 193.....2,3,3‘,4‘,5,5,6-Heptachlorobiphenyl
PCB 183.....2,2',3,4,4',5',6-Heptachlorobiphenyl.....14.63 ± 0.36 µg/kg
PCB 187.....2,2',3,4',5,5',6-Heptachlorobiphenyl..... 52.2 ± 1.5 µg/kg
PCB 194.....2,2',3,3',4,4',5,5'-Octachlorobiphenyl ..... 3.63 ± 0.16 µg/kg
PCB 195.....2,2',3,3',4,4',5,6-Octachlorobiphenyl.....1.296 ± 0.032 µg/kg
PCB 199.....2,2',3,3',4,5,5,6'-Octachlorobiphenyl.....5.634 ± 0.087 µg/kg
PCB 206.....2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl ..... 4.30 ± 0.17 µg/kg
PCB 209.....2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl....3.414 ± 0.086 µg/kg

Certified concentrations (mass fractions) for selected chlorinated pesticides

4,4'-DDE..... 104.0 ± 1.6 µg/kg
2,4'-DDD ..... 9.546 ± 0.072 µg/kg
4,4'-DDD ..... 65.97 ± 0.99 µg/kg
4,4'-DDT..... 71.5 ± 1.6 µg/kg
cis-Chlordane ..... 12.34 ± 0.38 µg/kg
cis-Nonachlor ..... 14.64 ± 0.49 µg/kg
trans-Nonachlor..... 17.01 ± 0.50 µg/kg
Oxychlordane ..... 1.78 ± 0.17 µg/kg

PBDE 28 (2,4,4‘-Tribromodiphenylether)..... 1.708 ± 0.035 µg/kg
PBDE 33 (2‘3,4-Tribromodiphenylether)
PBDE 47 (2,2‘4,4‘-Tetrabromodiphenylether)..... ..... 25.3 ± 1.5 µg/kg
PBDE 49 (2,2‘4,5‘-Tetrabromodiphenylether)..... .... 6.29 ± 0.16 µg/kg
PBDE 99 (2.2‘4,4‘,5‘-Pentabromodiphenylether) .... 1.70 ± 0.14 µg/kg
PBDE 100 (2,2‘,4,4‘6-Pentabromodiphenylether).... .... 5.23 ± 0.40 µg/kg
PBDE 154 (2,2‘4,4‘,6-Hexabromodiphenylether) .... .. 1.13 ± 0.039 µg/kg

Reference mass fraction values for selected PCB congeners

Cereals and genetically modified crops

Wheat

Code	Product	Unit
ERM-BC600	Wheat flour - Fusarium mycotoxins Certified values Deoxynivalenol (DON) ..... 102 ± 11 µg/kg Nivalenol (NIV) ..... 1000 ± 130 µg/kg Zearalenone (ZON) ..... 90 ± 8 µg/kg	81 g
NCS ZC73030	Wheat - Trace elements B ..... 0.54±0.11 µg/g Ba ..... 1.4±0.2 µg/g Be ..... 1.5±0.4 ng/g Ca ..... 0.033±0.002 % Cd ..... 0.018±0.002 µg/g Ce ..... 13.0±2.4 ng/g Co ..... 8.0±1.6 ng/g Cs ..... 8.1±0.5 ng/g Cu ..... 2.4±0.1 µg/g Dy ..... 0.9±0.2 ng/g Er ..... 0.5±0.1 ng/g Eu ..... 0.45±0.14 ng/g Fe ..... 20±3 µg/g Gd ..... 1.1±0.2 ng/g Ge ..... 1.6±0.4 ng/g Ho ..... 0.20±0.05 ng/g K ..... 0.21±0.01 % La ..... 8.1±1.4 ng/g Li ..... 0.027±0.007 µg/g Mg ..... 0.048±0.002 % Mn ..... 10.8±0.4 µg/g Mo ..... 0.25±0.02 µg/g Na ..... 14.2±3.4 µg/g Nd ..... 6.0±1.2 ng/g P ..... 0.15±0.01 % Pb ..... 0.067±0.016 µg/g Pr ..... 1.4±0.2 ng/g Rb ..... 3.2±0.3 µg/g S ..... 0.17±0.02 % Se ..... 0.060±0.010 µg/g Sm ..... 1.06±0.10 ng/g Sr ..... 1.4±0.1 µg/g Tb ..... 0.17±0.05 ng/g Tm ..... 0.12±0.04 ng/g Y ..... 0.10±0.02 µg/g Yb ..... 0.48±0.12 ng/g Zn ..... 12.4±0.6 µg/g	35 g

Rice

Code	Product	Unit
NCS ZC73027	Rice - Trace elements Certified values Al ..... 0.045±0.007 % As ..... 0.114±0.018 µg/g B ..... 0.94±0.11 µg/g Ba ..... 0.33±0.04 µg/g Be ..... 2.1±0.5 ng/g Ca ..... 0.011±0.001 % Cd ..... 0.012±0.003 µg/g Co ..... 5.5±1.6 ng/g Cr ..... 0.14±0.05 µg/g Cs ..... 4.0±0.3 ng/g Cu ..... 1.7±0.1 µg/g Er ..... 0.32±0.11 ng/g Eu ..... 0.21±0.08 ng/g Fe ..... 7.5±2.0 µg/g Gd ..... 0.6±0.2 ng/g Hg ..... 4.8±0.8 ng/g Ho ..... 0.12±0.04 ng/g K ..... 0.13±0.01 % Li ..... 0.035±0.010 µg/g Mg ..... 0.042±0.002 % Mn ..... 10.6±0.6 µg/g Mo ..... 0.43±0.02 µg/g Na ..... 25±2 µg/g Ni ..... 0.16±0.04 µg/g P ..... 0.127±0.004 % Pb ..... 0.075±0.025 µg/g Pr ..... 1.1±0.4 ng/g Rb ..... 2.4±0.2 µg/g Se ..... 0.040±0.013 µg/g Sm ..... 0.68±0.24 ng/g Sr ..... 0.30±0.05 µg/g Y ..... 0.17±0.04 µg/g Zn ..... 13.0±0.6 µg/g	35 g
NCS ZC73028	Rice - Trace elements As ..... 0.12±0.03 µg/g B ..... 1.06±0.08 µg/g Ba ..... 0.75±0.09 µg/g Be ..... 3.4±0.6 ng/g Ca ..... 0.013±0.002 % Cd ..... 0.018±0.002 µg/g Ce ..... 17±2 ng/g Co ..... 8.2±1.7 ng/g Cr ..... 0.17±0.05 µg/g Cs ..... 2.9±0.6 ng/g Cu ..... 2.6±0.1 µg/g Dy ..... 1.15±0.11 ng/g Er ..... 0.70±0.10 ng/g Eu ..... 0.42±0.12 ng/g Fe ..... 14.4±2.0 µg/g Gd ..... 1.5±0.2 ng/g Hg ..... 2.2±0.5 ng/g Ho ..... 0.21±0.04 ng/g K ..... 0.14±0.01 % La ..... 10.3±1.1 ng/g Li ..... 0.068±0.016 µg/g Mg ..... 0.053±0.002 % Mn ..... 11.5±0.6 µg/g Mo ..... 0.61±0.03 µg/g Na ..... 11.0±2.5 µg/g Nd ..... 7.9±1.3 ng/g Ni ..... 0.21±0.06 µg/g P ..... 0.16±0.01 % Pb ..... 0.09±0.03 µg/g Pr ..... 2.0±0.3 ng/g Rb ..... 0.29±0.06 µg/g Sm ..... 1.6±0.3 ng/g Sr ..... 0.29±0.05 µg/g Th ..... 4.0±1.2 ng/g Tl ..... 0.30±0.04 ng/g Tm ..... 0.12±0.04 ng/g Y ..... 0.22±0.05 µg/g Yb ..... 0.61±0.14 ng/g Zn ..... 14.6±0.6 µg/g	35 g
NCS ZC73029	Rice - Trace elements As ..... 0.11±0.02 µg/g B ..... 0.58±0.13 µg/g Ba ..... 0.50±0.08 µg/g Be ..... 2.3±0.4 ng/g Bi ..... 6.2±1.4 ng/g Ca ..... 0.010±0.001 % Cd ..... 0.19±0.02 µg/g Ce ..... 7.2±1.8 ng/g Co ..... 12.5±1.6 ng/g Cs ..... 72±9 ng/g Cu ..... 2.4±0.2 µg/g Dy ..... 0.48±0.14 ng/g Er ..... 0.21±0.06 ng/g Eu ..... 0.25±0.09 ng/g Fe ..... 6.3±0.8 µg/g Gd ..... 0.59±0.15 ng/g Ge ..... 2.0±0.6 ng/g Hg ..... 2.8±0.5 ng/g Ho ..... 0.13±0.04 ng/g K ..... 0.07±0.01 % Li ..... 0.050±0.016 µg/g Mg ..... 0.025±0.001 % Mn ..... 9.0±0.4 µg/g Mo ..... 0.89±0.06 µg/g Ni ..... 0.31±0.04 µg/g P ..... 0.10±0.01 % Pb ..... 0.070±0.023 µg/g Rb ..... 4.0±0.3 µg/g Se ..... 0.053±0.014 µg/g Sm ..... 0.49±0.12 ng/g Sr ..... 0.16±0.03 µg/g Tl ..... 0.20±0.07 ng/g Y ..... 0.20±0.03 µg/g Yb ..... 0.26±0.08 ng/g Zn ..... 14.4±0.8 µg/g	35 g

Soy

Code	Product	Unit
NIST-3234	Soy Flour NIST-3234 is intended primarily for validation of methods for determining proximates, vitamins, elements, and amino acids in soy flour and similar materials. This SRM can also be used for quality assurance when assigning values to in-house reference materials. The SRM is a defatted soy flour prepared by a commercial manufacturer. A unit of SRM 3234 consists of one bottle that contains approximately 50 g of material and is sealed inside an aluminized pouch. Certified mass fraction values for selected elements Ca .....3191 ± 56 mg/kg Cu .....15.34 ± 0.26 mg/kg Fe..... 80.3 ± 2.7 mg/kg Mg.....3487 ± 60 mg/kg Mn ..... 36.78 ± 0.88 mg/kg P..... 8080 ± 210 mg/kg K..... 25010 ± 560 mg/kg Zn..... 48.9 ± 1.1 mg/kg Certified concentrations for selected vitamins Thiamine (Vitamin B_1)..... ... 8.60 ± 0.20 mg/kg Riboflavin (Viatmin B_2)..... 3.363 ± 0.041 mg/kg Niacin .... 4.59 ± 0.17 mg/kg Niacinamide ..... . 11.49 ± 0.13 mg/kg Total Vitamin B3 as Niacinamide..... . 16.04 ± 0.24 mg/kg Pantothenic Acid ..... . 11.45 ± 0.12 mg/kg Choline..... ..... 2799 ± 18 mg/kg Reference values for Mass Fraction Values (Dry-Mass Basis) for Sodium and Carnitine, Proximates, Fatty Acids, Total Dietary Fibre, Calories and Amino Acids. Reference values for Mass Fraction Values (Dry-Mass Basis) for Sodium and Carnitine, Proximates, Fatty Acids, Total Dietary Fibre, Calories and Amino Acids.	50 g

Genetically modified crops

ERM-BF430A	Genetically modified AM04-1020 Potato (blank) Certified value g/kg Uncertainty g/kg AM04-1020.....0 .....negligible	1 g
ERM-BF430B	Genetically modified AM04-1020 Potato (nominal 100% GMO) Certified value g/kg Uncertainty g/kg AM04-1020.....1000 .....negligible	1 g
ERM-BF430C	Genetically modified AM04-1020 Potato (nominal 1% GMO) Certified value g/kg Uncertainty g/kg AM04-1020.....10 .....1.4	1 g
ERM-BF430D	Genetically modified AM04-1040 Potato (nominal 4% GMO) Certified value g/kg Uncertainty g/kg AM04-1020.....40 5	1 g
ERM-BF430E	Genetically modified AM04-1020 Potato (nominal 10% GMO) Certified value g/kg Uncertainty g/kg AM04-1020.....100 12	1 g
ERM-BF432A	DAS-68416-4 Soya Seed (blank) Certified value g/kg DAS-68416-4 Soya .....<0.3	vial
ERM-BF432B	DAS-68416-4 Soya Seed (nominal 0.5 % GMO) Certified value g/kg Uncertainty g/kg DAS-68416 Soya.....5.0 .....0.6	vial
ERM-BF432C	68416-4 Soya Seed (nominal 1.0 % GMO) Certified value g/kg Uncertainty g/kg DAS-68416-4 Soya .....10.0 .....1.7	vial
ERM-BF432D	68416-4 Soya Seed (nominal 10.0 % GMO) Certified value g/kg Uncertainty g/kg DAS-68416-4 Soya 100 13	vial
ERM-BF431A	AV43-6-G7 Potato (blank) Certified value g/kg AV43-6-G7 potato 0	vial
ERM-BF431B	AV43-6-G7 Potato (nominal 100% GMO) Certified value g/kg AV43-6-G7 potato 1000	vial

Vegetable matter

Code	Product	Unit
ERM-BF431C	AV43-6-G7 POTATO (nominal 10% GMO) Certified value g/kg Uncertainty g/kg AV43-6-G7 potato 9.9 1.3	vial
ERM-BF431D	AV43-6-G7 Potato (nominal 4% GMO) Certified value g/kg Uncertainty g/kg AV43-6-G7 potato ..... 40 ..... 5.0	vial
ERM-BF431E	AV43-6-G7 Potato (nominal 100% GMO) +4 degrees Certified value g/kg Uncertainty g/kg AV43-6-G7 potato 99 10	vial
ERM-BF433A	DAS-40278-9 Maize (blank) Certified value g/kg DAS-40278-9 maize ..... <0.3	vial
ERM-BF433B	DAS-40278-9 Maize (nominal 0.5% GMO) Certified value g/kg Uncertainty g/kg DAS-40278-9 maize ..... 5.0 ..... 0.6	vial
ERM-BF433C	DAS-40278-9 Maize (nominal 1% GMO) Certified value g/kg Uncertainty g/kg DAS-40278-9 maize ..... 10.0 ..... 0.9	vial
ERM-BF433D	DAS-40278-9 Maize (nominal 10% GMO) Certified value g/kg Uncertainty g/kg DAS-40278-9 maize 100 8	vial

Vegetable matter

Fruit and vegetables

Code	Product	Unit
IC-CS-M-2	Mushroom powder - Trace elements (control sample) Reference values for mushroom powder As ..... 0.151 ± 0.010 mg/kg Cd ..... 0.092 ± 0.004 mg/kg Cr ..... 1.205 ± 0.115 mg/kg Cu ..... 22.90 ± 0.86 mg/kg Hg ..... 0.164 ± 0.004 mg/kg Pb ..... 0.111 ± 0.015 mg/kg Se ..... 2.676 ± 0.120 mg/kg Zn ..... 42.50 ± 1.23 mg/kg	20 g
IC-CS-M-3	Mushroom powder - Trace elements (control sample) Reference values for mushroom powder As ..... 0.651 ± 0.026 mg/kg Cd ..... 1.229 ± 0.110 mg/kg Cr ..... 5.79 ± 0.80 mg/kg Cu ..... 18.73 ± 0.70 mg/kg Hg ..... 2.849 ± 0.104 mg/kg Pb ..... 1.863 ± 0.108 mg/kg Se ..... 17.43 ± 1.36 mg/kg Zn ..... 113.30 ± 3.28 mg/kg	20 g
NCS ZC73031	Carrot - Trace elements As ..... 0.11±0.02 µg/g B ..... 18.1±1.1 µg/g Ba ..... 24±3 µg/g Be ..... 6.5±1.5 ng/g Ca ..... 0.255±0.010 % Cd ..... 0.034±0.004 µg/g Ce ..... 177±38 ng/g Co ..... 66±7 ng/g Cr ..... 1.04±0.13 µg/g Cs ..... 42±4 ng/g Cu ..... 4.1±0.3 µg/g Dy ..... 11.0±1.4 ng/g Er ..... 5.6±0.6 ng/g Eu ..... 7.6±2.3 ng/g Fe ..... 148±15 µg/g Gd ..... 14.5±2.8 ng/g Ge ..... 6.6±1.5 ng/g Hg ..... 3.2±0.8 ng/g Ho ..... 2.0±0.2 ng/g K ..... 1.08±0.04 % La ..... 114±24 ng/g Li ..... 0.16±0.02 µg/g Mg ..... 0.091±0.003 % Mn ..... 12.1±0.5 µg/g Mo ..... 0.10±0.01 µg/g Na ..... 0.65±0.03* µg/g Nb ..... 24±4 ng/g Nd ..... 79±9 ng/g Ni ..... 0.67±0.10 µg/g P ..... 0.23±0.02 % Pb ..... 0.43±0.07 µg/g Pr ..... 21±3 ng/g Rb ..... 6.9±0.5 µg/g Se ..... 0.031±0.010 µg/g Sm ..... 14.3±2.3 ng/g Sr ..... 22±2 µg/g Tb ..... 2.1±0.5 ng/g Th ..... 28±6 ng/g Tl ..... 10.7±2.1 ng/g Tm ..... 0.83±0.14 ng/g U ..... 9.8±1.7 ng/g Y ..... 0.09±0.02 µg/g Yb ..... 5.5±0.8 ng/g Zn ..... 11.2±0.5 µg/g	35 g

Code	Product	Unit

NCS ZC73032 — Celery - Trace elements (NIM-GBW10048) — 35 g

As 0.39±0.08 µg/g	Gd 81±13 ng/g	Pr 118±13 ng/g
B 32±3 µg/g	Ge 21±7 ng/g	Rb 18.5±1.2 µg/g
Ba 17.3±2.3 µg/g	Hg 14.6±2.4 ng/g	Se 0.118±0.017 µg/g
Be 31±5 ng/g	Ho 12.4±1.3 ng/g	Sm 87±9 ng/g
Br 16±4 µg/g	K 2.7±0.2 %	Sr 213±19 µg/g
Ca 1.66±0.06 %	La 0.55±0.05 ng/g	Tb 12.6±2.6 ng/g
Cd 0.092±0.006 µg/g	Li 3.2±0.2 µg/g	Th 177±31 ng/g
Ce 1.04±0.11 ng/g	Lu 4.5±1.3 ng/g	Tl 21±4 ng/g
Co 0.25±0.02 ng/g	Mg 0.53±0.03 %	Tm 4.2±1.1 ng/g
Cr 1.35±0.22 µg/g	Mn 45±2 µg/g	U 48±12 ng/g
Cs 0.165±0.018 ng/g	Mo 1.02±0.09 µg/g	V 1.3±0.3 µg/g
Cu 8.2±0.4 µg/g	Na 2.17±0.23 µg/g	Y 0.35±0.08 µg/g
Dy 64±11 ng/g	Nd 0.47±0.08 ng/g	Yb 29±7 ng/g
Er 30±4 ng/g	Ni 1.8±0.4 µg/g	Zn 26±2 µg/g
Eu 20±2 ng/g	P 0.35±0.01 %	
Fe 597±34 µg/g	Pb 2.7±0.7 µg/g	

NCS ZC73033 — Scallion (Salad Onion) - Trace elements — 35 g

As 0.52±0.11 µg/g	Eu 39±4 ng/g	Pr 235±29 ng/g
B 25±2 µg/g	Fe 1010±55 µg/g	Rb 9.4±0.8 µg/g
Ba 36±5 µg/g	Gd 155±34 ng/g	S 0.46±0.04 %
Be 59±11 ng/g	Hg 12.0±2.3 ng/g	Se 0.069±0.009 µg/g
Br 20±2 µg/g	Ho 22±4 ng/g	Sm 167±18 ng/g
Ca 2.28±0.09 %	K 2.1±0.1 %	Sr 74±5 µg/g
Cd 0.19±0.02 µg/g	La 1.16±0.10 ng/g	Tb 22±5 ng/g
Ce 2.1±0.3 ng/g	Li 1.6±0.2 µg/g	Th 364±58 ng/g
Co 0.59±0.04 ng/g	Mg 0.27±0.01 %	Tl 37±8 ng/g
Cr 2.6±0.4 µg/g	Mn 173±7 µg/g	Tm 7.8±1.5 ng/g
Cs 0.19±0.02 ng/g	Mo 0.12±0.03 µg/g	Y 0.61±0.14 µg/g
Cu 5.5±0.3 µg/g	Nd 0.91±0.11 ng/g	Yb 57±17 ng/g
Dy 119±12 ng/g	P 0.36±0.02 %	Zn 25±1 µg/g
Er 57±12 ng/g	Pb 1.34±0.16 µg/g	

NMIJ CRM 7405-A — Seaweed - Trace Elements and Arsenic Compound (Hijiki) — 20 g

Certified values (g/kg)

Ca 15.2 ± 0.3 g/kg	K 47.5 ± 0.7 g/kg	P 1.01 ± 0.03 g/kg
Na 16.2 ± 0.2 g/kg	Mg 6.79 ± 0.10 g/kg	Sr 1.47 ± 0.04 g/kg

Certified values (mg/kg)

Al 147 ± 7 mg/kg	Co 1.07 ± 0.06 mg/kg	Mn 14.1 ± 0.7 mg/kg
As 35.8 ± 0.9 mg/kg	Cr 3.4 ± 0.1 mg/kg	Ni 2.2 ± 0.1 mg/kg
Ba 14.6 ± 0.3 mg/kg	Cu 1.55 ± 0.07 mg/kg	Pb 0.43 ± 0.03 mg/kg
Cd 0.79 ± 0.02 mg/kg	Fe 311 ± 11 mg/kg	Zn 13.4 ± 0.5 mg/kg

Certified arsenic compounds (mg/kg)

As(V) 10.1 ± 0.5 mg/kg

NCS ZC73036 — Tea - Trace elements — 35 g

As 0.27±0.05 µg/g	Fe 322±23 µg/g	Pb 1.6±0.2 µg/g
B 14.1±1.2 µg/g	Gd 76±11 ng/g	Pr 93±8 ng/g
Ba 41±4 µg/g	Ge 15±5 ng/g	Rb 89±9 µg/g
Be 25±3 ng/g	Hg 8.1±1.5 ng/g	Se 0.10±0.03 µg/g
Bi 40±11 ng/g	Ho 13±2 ng/g	Sm 66±10 ng/g
Br 2.9±0.5 µg/g	K 1.55±0.07 %	Sr 36±2 µg/g
Ca 1.21±0.03 %	La 0.54±0.04 ng/g	Tb 11.4±1.9 ng/g
Cd 0.076±0.004 µg/g	Li 0.52±0.04 µg/g	Th 79±12 ng/g
Ce 0.81±0.03 ng/g	Lu 6.2±0.9 ng/g	Tl 57±11 ng/g
Co 0.30±0.02 ng/g	Mg 0.220±0.008 %	Tm 5.9±1.1 ng/g
Cr 0.92±0.20 µg/g	Mn 0.117±0.006* µg/g	U 47±7 ng/g
Cs 0.58±0.03 ng/g	Mo 0.11±0.02 µg/g	V 0.60±0.15 µg/g
Cu 24±1 µg/g	Na 0.010±0.001 µg/g	Y 0.52±0.03 µg/g
Dy 65±7 ng/g	Nd 0.35±0.04 ng/g	Yb 38±5 ng/g
Er 37±6 ng/g	Ni 5.4±0.4 µg/g	Zn 35±2 µg/g
Eu 22±6 ng/g	P 0.28±0.01 %	

Food and drink products

Processed food

Code	Product	Unit
LGC7016	Chocolate confectionery	15 g

	Assessed values g/100g	Uncertainty g/100g
Lactose	7.06	0.96
Sucrose	46.5	2.3
Total fat	29.64	0.34
Butyric acid in fat	0.677	0.071
Nitrogen	1.274	0.024

Alcoholic beverage

ERM-BD476	Red wine - Ochratoxin A (OTA) Certfied value Ochratoxin A....0.52 ± 0.11 µg/L	50 mL

Food supplements

ERM-BC210	Wheat flour - Total Selenium & Selenomethionine Certified values Total selenium ..... 17.23 mg/kg Selenomethionine ..... 27.4 mg/kg	15 g

Food specific standards

Natural products and food constituents

Vitamins

Code	Product	Unit
CERV-014	Thiamine HCl (Vitamin B1) 1.0 mg/mL (as free base) in Methanol	1 mL
CERV-016	Nicotinamide (Vitamin B3) 1.0 mg/mL (as free base) in Methanol	1 mL
CERV-017	Nicotinic acid (Vitamin B3) 1.0 mg/mL (as free base) in Methanol	1 mL
CERV-018	Pyridoxine HCl (Vitamin B6) 1.0 mg/mL (as free base) in Methanol	1 mL
CERV-019	Cyanocobalamin (Vitamin B12) 1.0 mg/mL (as free base) in Methanol	1 mL
CERV-020	(+/-)-alpha-Tocopherol (Vitamin E) 1.0 mg/mL (as free base) in Methanol	1 mL
CERV-021	(+)-gamma-Tocopherol (Vitamin E) 1.0 mg/mL (as free base) in Methanol	1 mL

Amino acids

Code	Product	Unit
NIM-GBW(E)100050	Threonine - certified purity 99.2%	0.2 g
NIM-GBW(E)100051	Serine - certified purity 99.6%	0.2 g
NIM-GBW(E)100052	Glutamic acid - certified purity 98.2%	0.2 g
NIM-GBW(E)100053	Glycine - certified purity 98.8%	0.2 g
NIM-GBW(E)100054	Alanine - certified purity 99.4%	0.2 g
NIM-GBW(E)100055	Valine - certified purity 99.4%	0.2 g
NIM-GBW(E)100056	Methionine - certified purity 98.6%	0.2 g
NIM-GBW(E)100057	Isoleucine - certified purity 99.4%	0.2 g
NIM-GBW(E)100058	Leucine - certified purity 99.5%	0.2 g
NIM-GBW(E)100059	Tyrosine - certified purity 99.4%	0.2 g

Code	Product	Unit
NIM-GBW(E)100060	Lysine hydrochloride - certified purity 99.2%	0.2 g
NIM-GBW(E)100061	Phenylalanine - certified purity 99.9%	0.2 g
NIM-GBW(E)100080	Aspartic acid - certified purity 99.1%	0.2 g
NIM-GBW(E)100081	Cystine - certified purity 98.3%	0.2 g
NIM-GBW(E)100082	Histidine - certified purity 99.5%	0.2 g
NIM-GBW(E)100083	Arginine - certified purity 99.7%	0.2 g

Mycotoxins

Single compounds

Code	Product	Unit
BCR-423 (RM)	Aflatoxin M1 standard solution 9.93 µg/mL in chloroform	2.5 mL
B-MYC0600-2	Zearalenone 100 µg/mL in Acetonitrile	2 mL
B-MYC5100-1	Alternariol - Dried down standard Concentration after reconstitution..... 100 µg/mL	0.1 mg
B-MYC5120-1	Alternariolmethylether - Dried down standard Concentration after reconstitution..... 100 µg/mL	0.1 mg
B-MYC5800-1	Tenuazonic acid - Dried down standard Concentration after reconstitution..... 100 µg/mL	0.1 mg

Multicomponent standard solutions

B-MYCKIT	LC-MS Mycotoxin Kit	KIT

Mycotoxin matrix reference materials

B-MYC0896	Maize flour check sample – Zearalenone and Deoxynivalenol Indicative value Zearalenone ..... 79 ± 26 µg/kg Deoxynivalenol ..... 901 ± 110 µg/kg	100 g
ERM-BD475	Ground Roasted Coffee - Ochratoxin A Certified value Ochratoxin A ..... 6.0 µg/kg ± 0.6	64 g

Shellfish toxins

Diarrhetic shellfish poisons (DSP) and other lipophilic toxins

Code	Product	Unit
NRCCRM-HYTX	1-Homoyessotoxin (hYTX) 5.0 µmol/L in Methanol This is a certified calibration solution for the determination of homo-yessotoxin (hYTX) by chemical analysis methods. Each ampoule contains ~0.5 mL of a solution of hYTX in methanol at a concentration of 5.0 µM.	0.5 mL
NRCCRM-YTX-B	Yessotoxin (YTX) 4.9 µM in Methanol This is a certified calibration solution for the determination of yessotoxin (YTX) by chemical analysis methods. Each ampoule contains ~0.5 mL of solution YTX at a concentration of 4.9 µM in methanol.	0.5 mL

Paralytic shellfish poisons (PSP)

NRCCRM-ATXA	Anatoxin-a (ATX-a) 30 µmol/L in Methanol/Water (9:91) Each ampoule contains ~0.5 mL of solution with 30 µM anatoxin-a (ATX) dissolved in methanol/water (9:91, v/v), with 0.1 % acetic acid.	0.5 mL
NRCCRM-DCGTX23B	Decarbamylgonyautoxins-2 and -3 solution Each ampoule contains approximately 0.5 mL of solution with 114 µmoles/L (at 20°C) of decarbamylgonyautoxins-2 and 32 µmoles/L (at 20°C) of decarbamylgonyautoxins-3 in filtered and aqueous 0.003 M hydrochloric acid plus 0.01 M acetic acid.	0.5 mL
NRCCRM-STX-F	Saxitoxin dihydrochloride solution Each ampoule contains approximately 0.5 mL of solution with 66.3 µmoles/L (at 20°C) of saxitoxin in filtered and aqueous 0.003 M hydrochloric acid.	0.5 mL
NRCCRM-C1&2	N-Sulfocarbamoyl-gonyautoxin-2 and -3 solution Each ampoule contains approximately 0.5 mL of solution with 114 µmoles/L of N-sulfocarbamoyl-gonyautoxin-2 and 35 µmoles/L of N-sulfocarbamoyl-gonyautoxin-3 in aqueous acetic acid (ca. 17 µmoles, pH 5).	0.5 mL

Code	Product	Unit
NRCCRM-DCNEO-C	Decarbamoylneosaxitoxin solution Each ampoule contains approximately 0.5 mL of a solution of dcNEO dissolved in filtered, aqueous 3 mM hydrochloric acid at a concentration (29.4 µmos/L) suitable for calibration of liquid chromatography experiments and for spiking shellfish control samples in recovery experiments.	0.5 mL

Industrial reference materials

Rocks, ceramic materials and minerals

Code	Product	Unit
LGC2700	Natural gypsum - Major oxides and trace elements Certified value Hg ..... 1.35 µg/kg Assessed values Al_2O_3 ..... 2.872 g/100g CaO ..... 26.31 g/100g Fe_2O_3 ..... 1.150 g/100g P_2O_5 ..... 0.0367 g/100g K_2O ..... 0.830 g/100g SiO_2 ..... 10.93 g/100g SO_3 ..... 34.67 g/100g TiO_2 ..... 0.1480 g/100g Loss on ignition ..... 19.78 g/100g Ni ..... 9.5 mg/kg Vn ..... 21.3 mg/kg Zn ..... 19.3 mg/kg Indicative values for MgO, MnO, SrO, As, Ba, Cr, Co, Cu, Pb, Tl	75 g
LGC2701	Natural anhydrite - Major oxides and trace elements Certified values Hg ..... 2.33 µg/kg Assessed values Al_2O_3 ..... 0.045 g/100g CaO ..... 40.82 g/100g Fe_2O_3 ..... 0.0280 g/100g P_2O_5 ..... 0.0069 g/100g K_2O ..... 0.0105 g/100g SiO_2 ..... 0.112 g/100g SO_3 ..... 57.8 g/100g Loss on ignition ..... 0.452 g/100g Indicative values for MgO, MnO, Na_2O, SrO, TiO_2, As, Cr, Co, Cu, Pb, Ni. Vn, Zn	75 g
LGC2702	Blended gypsum - Major oxides and trace elements Certified value Hg ..... 420 µg/kg Assessed values Al_2O_3 ..... 1.121 g/100g CaO ..... 31.47 g/100g Fe_2O_3 ..... 0.392 g/100g P_2O_5 ..... 0.0177 g/100g K_2O ..... 0.196 g/100g SiO_2 ..... 3.01 g/100g SO_3 ..... 41.26 g/100g TiO_2 ..... 0.0550 g/100g Loss on ignition ..... 21.32 g/100g Pb ..... 8.4 mg/kg Ni ..... 4.8 mg/kg Vn ..... 10.5 mg/kg Zn ..... 11.7 mg/kg Indicative values for MgO, MnO, Na_2O, SrO, As, Ba, Cr, Co, Se, Tl	75 g
LGC2703	Desulfurised gypsum - Major oxides and trace elements Certified values Hg ..... 646 µg/kg Assessed values Al_2O_3 ..... 0.459 g/100g CaO ..... 32.45 g/100g Fe_2O_3 ..... 0.142 g/100g P_2O_5 ..... 0.0120 g/100g K_2O ..... 0.0340 g/100g SiO_2 ..... 0.90 g/100g SO_3 ..... 44.84 g/100g TiO_2 ..... 0.0325 g/100g Loss on ignition ..... 21.21 g/100g Ni ..... 3.2 mg/kg Vn ..... 6.0 mg/kg Zn ..... 9.5 mg/kg Indicative values for MgO, MnO, Na_2O, SrO, As, Cr, Co, Cu, Pb,Se,Tl	75 g

Contaminant standards

Pesticides

Single compounds

Code	Product	Unit
FL-35372-25MG	Fluazifop-P	25 mg
FL-32406-100MG	(+/-)-3-Chloro-1,2-propanediol	100 mg
FL-91242-25MG	Sulfluramid	25 mg
FL-36195-100MG	Phosmet PESTANAL®	100 mg
IPO 908	Thifensulfuron-methyl	100 mg
IPO 909	Kelevan	100 mg
IPO 910	Isocarbamide	100 mg
IPO 911	Isodrin	100 mg
IPO 917	Hexachloro-1,3-butadiene	250 mg
IPO 922	DEET (N,N-Diethyl-m-toluamide)	250 mg
U-PST-005	Atrazine	100 mg
U-PST-020	Allethrin	100 mg
U-PST-024	Ametryn	100 mg
U-PST-025	Chloramben	100 mg
U-PST-030	Amitrole	100 mg
U-PST-035	Diallate	100 mg
U-PST-051	Dicamba methyl ester	10 mg
U-PST-060	Propoxur	100 mg
U-PST-070	HCH-Mix	100 mg
U-PST-071	alpha-HCH (alpha-BHC)	10 mg
U-PST-072	beta-HCH (beta-BHC)	10 mg
U-PST-073	delta-HCH (delta-BHC)	10 mg
U-PST-3375K100A01	Cadusafos 100 µg/mL in Acetone	1 mL
U-PST-1285E100C15	Carbendazim 100 µg/mL in Ethanol CERTAN®	1.5 mL
U-PST-1590	Oxyfluorfen	100 mg
U-PST-1595	Pebulate	100 mg
U-PST-1620	Picloram	25 mg
U-PST-1640	Profluralin	100 mg
U-PST-1645	Promecarb	100 mg
U-PST-1650	Pronamide	100 mg
U-PST-1655	Propanil	100 mg
U-PST-1665	Propham	100 mg
U-PST-1675	Quinalphos	25 mg
U-PST-1680	Siduron	100 mg
U-PST-1685	Sulprofos (Bolstar)	100 mg
U-PST-1690	Tecnazene	100 mg
U-PST-1695	Terbacil	100 mg
U-PST-1705	Terbuthylazine	25 mg
U-PST-1710	Terbutryn	100 mg
U-PST-1725	Thiobencarb	100 mg
U-PST-1730	Thiophanate-methyl	100 mg
U-PST-1735	Triclopyr	100 mg
U-PST-1740	Trifluralin	100 mg

Hydrocarbons

Code	Product	Unit
U-PST-1745	Vernolate	100 mg
U-PST-1750	Ziram	100 mg
U-PST-1755	Acifluorfen	100 mg
U-PST-1765	Dioxacarb	10 mg
U-PST-1775	Fenarimol	10 mg
U-PST-1780	Fenuron	100 mg
U-PST-1785	Fluridone	10 mg
U-PST-1795	Norflurazon	10 mg
U-PST-1800	Secbumeton	10 mg
U-PST-1805	Simetryn	10 mg
U-PST-1810	Sulfotep (Tetraethyl dithiopyrophosphate)	10 mg
U-PST-1815	SWEP	10 mg
U-PST-1820	Tebuthiuron	100 mg
U-PST-1825	Tokuthion	10 mg
FL-31518-250MG	2,4-D PESTANAL®	250 mg
FL-31594-250MG	Flufenoxuron PESTANAL®	250 mg
FL-32005-100MG	Carbosulfan PESTANAL®	100 mg
FL-32060-250MG	Tolylfluanid PESTANAL®	250 mg
FL-32462-50MG	Fluopyram PESTANAL®	50 mg
FL-32581-100MG	Bixafen PESTANAL®	100 mg
FL-36695-1G	2-Chlorotoluene PESTANAL®	1 g
FL-46301-100MG	Fluquinconazole PESTANAL®	100 mg
U-CPS-758-1	cis-Permethrine	50 mg
U-CPS-758-2	trans-Permethrine	50 mg
CIL-ERD-083	Diisopropyl methylphosphonate unlabelled 1000 µg/ml in Methanol	1.2 mL
CIL-ERD-086	Diisopropyl methyl phosphonate (D_{14},98%) 1000 µg/mL in Methanol	1.2 mL
CIL-ERD-118	Diethyl hydrogen phosphate 1000 µg/mL(as free acid)	1.2 mL
CIL-ERD-119	O,O-Diethyl hydrogen thiophosphate potassium salt unlabelled 1000 µg/mL in Methanol	1.2 mL
CIL-ERD-121	Dimethyl hydrogen phosphate 1000 µg/mL in Methanol	1.2 mL
CIL-ERD-155	O,O-Dimethyl dithiophosphate sodium salt 1000 µg/mL in Methanol	1.2 mL
CIL-ERD-156	O,O-Diethyl hydrogen dithiophosphate ammonium salt 1000 µg/mL in Methanol	1.2 mL
CIL-ERE-024	Ethyl methylphosphonic acid 1000 µg/mL in Methanol	1.2 mL
CIL-ERI-015	Isopropyl methylphosphonic acid 1000 µg/mL in Methanol	1.2 mL
CIL-ERI-017	Isopropyl methylphosphonic acid (D_7,98%) 1000 µg/mL in Methanol	1.2 mL
CIL-ERI-026	Isobutyl hydrogen methylphosphonate (RVX acid) 1000 µg/mL in Methanol	1.2 mL
CIL-ERM-038	Methylphosphonic acid 1000 µg/mL in Methanol	1.2 mL
CIL-ERT-052	Thiodiglycol sulfoxide (unlabelled) 1000 µg/mL in Methanol	1.2 mL
CIL-ERT-053	Thiodiglycol (unlabelled) 1000 µg/mL in Methanol	1.2 mL
IPO 920	Tetrabromobisphenol A (TBBPA)	100 mg

Hydrocarbons

Code	Product	Unit
IPO 912	Acenaphthene	100 mg
IPO 913	Chrysene	100 mg
IPO 914	Fluoranthene	250 mg
IPO 915	Fluorene	100 mg
IPO 916	Naphthalene	250 mg
IPO 921	Pyrene	100 mg

Veterinary medicines and pharmaceuticals

Code	Product	Unit
FL-32402-100MG	Sulfaguanidine VETRANAL®	100 mg
FL-32676-2ML	Testosterone acetate 100 µg/mL in Acetonitrile VETRANAL®	2 mL
FL-32516-10MG	Sulfanilamide-$^{13}C_6$ VETRANAL®	10 mg

Miscellaneous organic compounds

Code	Product	Unit
FL-53407-100MG	5-(Hydroxymethyl)furfural	100 mg
U-UST-100-1	Revised PVOC/GRO Mixture (Wisconsin) 1000 µg/mL of each component in methanol (methyl alcohol) Benxene Ethylbenzene Tert-butylmethyl ether (MTBE) Naphthalene Toluene 1,2,4-trimethybenzene 1,3,5-trimethylbenzene o-Xylene m-Xylene p-Xylene	1 mL
U-UST-140-1	PVOC Mixture (California) 1000 µg/mL of each component in methanol (methyl alcohol) Benzene Ethylbenzene Tert-butylmethyl ether (MTBE) Toluene o-Xylene m-Xylene	1 mL
CHE USC 11	Benzene	2 mL
CHE USC 13	Toluene DRUG PRECURSOR	2 mL
CHE USC 14	o-Xylene	2 mL
CHE USC 16	p-Xylene	2 mL
CIL-ULM-8984-1.2	Tetrachloro-m-xylene (unlabelled) 100 µg/mL in Isooctane	1.2 mL
IPO 918	Melamine	250 mg
IPO 919	tert-Octylphenol	250 mg
NIM-GBW10058	Melamine Certified value Melamine.....99.5%	0.1 g
U-CH-110	2-Chloronaphthalene 100 µg/mL in Methylene chloride	4 x 1 mL
U-CH-170	Hexachlorocyclopentadiene 100 µg/mL in Methanol	4 x 1 mL
U-CH-180	Hexachloroethane 100 µg/mL in Methanol	4 x 1 mL
U-CH-200	Hexachloropropene 100 µg/mL in Methanol	4 x 1 mL
U-CH-230	Pentachloroethane 100 µg/mL in Methanol	4 x 1 mL
U-HC-360	Dibromomethane 100 µg/mL in Methanol	4 x 1 mL
U-HC-370	cis-1,2-Dichloroethene 100 µg/mL in Methanol	4 x 1 mL
U-HC-390	2,2-Dichloropropane 100 µg/mL in Methanol	4 x 1 mL
U-HC-400	1,1-Dichloropropene 100 µg/mL in Methanol	4 x 1 mL
U-HC-410	1,1,1,2-Tetrachloroethane 100 µg/mL in Methanol	4 x 1 mL
U-HC-440	1,2,3-Trichloropropane 100 µg/mL in Methanol	4 x 1 mL
U-HC-450	Allyl chloride 100 µg/mL in Methanol	4 x 1 mL
U-HC-470	Methyl iodide 100 µg/mL in Methanol	4 x 1 mL

Code	Product	Unit
CERERS-062	VOC Calibration Standard, 200ug/ml of each component 200 µg/mL of each analyte in Methanol. Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroform 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane Dibromomethane 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethene cis-1,2-Dichloroethene trans-1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane 2,2-Dichloropropane 1,1-Dichloropropene cis-1,3-Dichloropropene trans-1,3-Dichloropropene Ethylbenzene Hexachloro-1,3-butadiene Isopropylbenzene 4-Isopropyltoluene Methylene chloride Naphthalene Propylbenzene Styrene 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane Tetrachloroethene Toluene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene 1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene m-Xylene o-Xylene p-Xylene	
CERERS-079	VOC Calibration Standard, 2000 µg/mL of each component 2000 µg/mL of each analyte in Methanol. Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroform 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane Dibromomethane 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethene cis-1,2-Dichloroethene trans-1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane 2,2-Dichloropropane 1,1-Dichloropropene cis-1,3-Dichloropropene trans-1,3-Dichloropropene Ethylbenzene Hexachloro-1,3-butadiene Isopropylbenzene 4-Isopropyltoluene Methylene chloride Naphthalene Propylbenzene Styrene 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane Tetrachloroethene Toluene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene 1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene m-Xylene o-Xylene p-Xylene	1.2 mL

Code	Product	Unit
CERERV-011	VOC 200ug/ml of each component 200 µg/mL of each analyte in Methanol. Benzene Bromobenzene Bromochloromethane Bromodichloromethane Bromoform Bromomethane n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane Dibromomethane 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethene cis-1,2-Dichloroethene trans-1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane 2,2-Dichloropropane 1,1-Dichloropropene cis-1,3-Dichloropropene trans-1,3-Dichloropropene Ethylbenzene Hexachloro-1,3-butadiene Isopropylbenzene p-Isopropyltoluene Methylene chloride Naphthalene Propylbenzene Styrene 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane Tetrachloroethene Toluene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene Trichlorofluoromethane 1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl chloride m-Xylene o-Xylene p-Xylene	
RTC-UST-105-1.5ML	Revised PVOC Mix Lot 020173 Certified values Benzene ..... 2000 ± 58.2 µg/mL Ethylbenzene ..... 2000 ± 58.2 µg/mL Methyl tert-butyl ether (MTBE) .. 2000 ± 58.2 µg/mL Toluene ..... 2010 ± 58.5 µg/mL m-Xylene ..... 2000 ± 58.2 µg/mL o-Xylene ..... 2000 ± 58.2 µg/mL p-Xylene ..... 2010 ± 58.2 µg/mL	1.5 mL
HXC 001	4-Chlorocatechol	1 g
HXC 002	4,5-Dichlorocatechol	1 g
HXC 003	3,4,5-Trichlorocatechol	100 mg
HXC 004	Tetrachlorocatechol	1 g
HXC 018	3,5-Dichlorocatechol	1 g
HXC 019	3,4,6-Trichlorocatechol	100 mg
HXC 027	3-Chlorocatechol	1 g
U-RHH-007	Bromochloromethane	1 g

ULTRA QuECh™ Standards

ULTRA QuECh™ Kits

Code	Product	Unit
U-QUEC-104	ULTRA QuECh™ Extraction Packet (EN & MM) - 50 x 10 g For method EN 15662 & Mini-multiresidue Homogenate sample size: 10 g Contents: 4 g $MgSO_4$, 1 g NaCl, 1 g Trisodium Citrate Dihydrate, 0.5 g Disodium Hydrogencitrate Sesquihydrate	set
U-QUEC-204	ULTRA QuECh™ dSPE Tubes - Pigments & Fats (AOAC - 1 mL Aliquot) - 50 x 2 mL tubes For method AOAC 2007.01 Contents: 150 mg $MgSO_4$, 50 mg PSA, 50 mg C18, 50 mg GCB	set
U-QUEC-205	ULTRA QuECh™ dSPE Tubes - General (EN & MM - 1 mL Aliquot) - 50 x 2 mL tubes For method EN 15662 & Mini-multiresidue Contents: 150 mg $MgSO_4$, 25 mg PSA	set
U-QUEC-206	ULTRA QuECh™ dSPE Tubes - Fats & Waxes (EN & MM - 1 mL Aliquot) - 50 x 2 mL tubes For method EN 15662 & Mini-multiresidue Contents: 150 mg $MgSO_4$, 25 mg PSA, 25 mg C18	set
U-QUEC-207	ULTRA QuECh™ dSPE Tubes - Pigmented (EN & MM - 1 mL Aliquot) - 50 x 2 mL tubes For method EN 15662 & Mini-multiresidue Contents: 150 mg $MgSO_4$, 25 mg PSA, 2.5 mg GCB	set

Standards for the Italian Environmental Regulation DM 471

Code	Product	Unit
U-QUEC-208	ULTRA QuECh™ dSPE Tubes - Highly Pigmented (EN & MM - 1 mL Aliquot) - 50 x 2 mL tubes For method EN 15662 & Mini-multiresidue Contents: 150 mg $MgSO_4$, 2.5 mg PSA, 7.5 mg GCB	set
U-QUEC-401	Empty QuEChERS Extraction Tubes - 50 x 50 mL	set
U-QUEC-507	ULTRA QuECh™ Kit - Pigments & Fats (AOAC - 1 mL Aliquot) For method AOAC 2007.01 Each kit contains: 50 × 50 mL centrifuge tubes 50 × extraction tubes 50 × dSPE tubes (2 mL)	kit
U-QUEC-509	ULTRA QuECh™ Kit - General (EN & MM - 1 mL Aliquot) For method EN 15662. Each kit contains: 50 × 50 mL centrifuge tubes 50 × extraction tubes 50 × dSPE tubes (2 mL)	kit
U-QUEC-511	ULTRA QuECh™ Kit - Fats & Waxes (EN & MM - 1 mL Aliquot) For method EN 15662. Each kit contains: 50 × 50 mL centrifuge tubes 50 × extraction tubes 50 × dSPE tubes (2 mL)	kit
U-QUEC-513	ULTRA QuECh™ Kit - Pigmented (EN & MM - 1 mL Aliquot) For method EN 15662. Each kit contains: 50 × 50 mL centrifuge tubes 50 × extraction tubes 50 × dSPE tubes (2 mL)	kit
U-QUEC-515	ULTRA QuECh™ Kit - Highly Pigmented (EN & MM - 1 mL Aliquot) For method EN 15662. Each kit contains: 50 × 50 mL centrifuge tubes 50 × extraction tubes 50 × dSPE tubes (2 mL)	kit

Standards for the Italian Environmental Regulation DM 471

Code	Product	Unit
U-D471-HA	Method DM 471 Standard Mixture 8	4 x 1 mL
U-D471-HA-1	Method DM 471 Standard Mixture 8 100 µg/mL of each analyte in Methanol Chloromethane Chloroform Vinyl chloride 1,2-Dichloroethane 1,1-Dichloroethene 1,1-Dichloroethane cis-1,2-Dichloroethene trans-1,2-Dichloroethene Methylene chloride (Dichloromethane) Bromoform 1,2-Dibromoethane (EDB) Dibromochloromethane Bromodichloromethane 1,2-Dichloropropane	1 mL

Organotin compounds

Derivatisation reagents

Code	Product	Unit
DE-MS-03401-25*	Sodium tetraethylborate	25 g
DE-MS-03401-5*	Sodium tetraethylborate	5 g
DE-MS-03402S-5x	Sodium tetraethylborate 20% in THF	5 x 25 g

Test mixtures for GC and LC

LC test mixtures

Code	Product	Unit
CEROQ-003	Caffeine Qualification Standards Kit for HPLC Set of five Caffeine standards in Water, at the following concentrations: 5 µg/mL 25 µg/mL 125 µg/mL 250 µg/mL 500 µg/mL	5 x 1 mL

Standards for TOC and TIC

Code	Product	Unit
U-IQC-100-5	ULTRA Low TOC Water: < 50 ppb TOC	500 mL
U-IQC-100-L	ULTRA Low TOC Water: < 50 ppb TOC	1 L
REATIC1M	Total Inorganic Carbon Std 1000 ppm	500 mL
REATIC2M	Total Inorganic Carbon Std 2000 ppm	500 mL
REATIC500	Total Inorganic Carbon Std 500 ppm	500 mL
REATOIC2M	Mixed Std (equal conc of organic & inorganic Carbon) 2000 ppm	500 mL
REATOIC4M	Mixed Std (equal conc of organic & inorganic Carbon) 4000 ppm	500 mL

Environmental contaminant standards from CIL

Dioxin & furan method standards, standard mixtures & reference materials

U.S. EPA Method 1613 standard mixtures

Code	Product	Unit
CIL-EDF-5999-2.5ML	Method 1613 Internal Standard ($^{13}C_{12}$, 99%) 200 ng/mL of each analyte in Nonane 1,2,3,4-Tetrachlorodibenzo-p-dioxin ($^{13}C_{12}$,99%) 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin ($^{13}C_{12}$,99%)	2.5 mL
CIL-EDF-8999-5ML	Method 1613 Labelled Compound Stock Solution Solvent: Nonane 2,3,7,8-Tetrachlorodibenzo-p-dioxin ($^{13}C_{12}$,99%) ..... 100 ng/mL 2,3,7,8-Tetrachlorodibenzofuran ($^{13}C_{12}$,99%) ..... 100 ng/mL 1,2,3,7,8-Pentachlorodibenzo-p-dioxin ($^{13}C_{12}$,99%) ..... 100 ng/mL 1,2,3,7,8-Pentachlorodibenzofuran ($^{13}C_{12}$,99%) ..... 100 ng/mL 2,3,4,7,8-Pentachlorodibenzofuran ($^{13}C_{12}$,99%) ..... 100 ng/mL 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin ($^{13}C_{12}$,99%) ..... 100 ng/mL 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin ($^{13}C_{12}$,99%) ..... 100 ng/mL 1,2,3,4,7,8-Hexachlorodibenzofuran ($^{13}C_{12}$,99%)..... 100 ng/mL 1,2,3,6,7,8-Hexachlorodibenzofuran ($^{13}C_{12}$,99%)..... 100 ng/mL 1,2,3,7,8,9-Hexachlorodibenzofuran ($^{13}C_{12}$,99%)..... 100 ng/mL 2,3,4,6,7,8-Hexachlorodibenzofuran ($^{13}C_{12}$,99%)..... 100 ng/mL 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin ($^{13}C_{12}$,99%)..... 100 ng/mL 1,2,3,4,6,7,8-Heptachlorodibenzofuran ($^{13}C_{12}$,99%) ..... 100 ng/mL 1,2,3,4,7,8,9-Heptachlorodibenzofuran ($^{13}C_{12}$,99%) ..... 100 ng/mL Octachlorodibenzo-p-diozin ($^{13}C_{12}$,99%)..... 200 ng/mL	5 mL

Unlabelled dioxin and furan standard mixtures

Code	Product	Unit
CIL-EDF-5493	Dioxin/Furan Native Mix (unlabelled) (all 17- 2378 isomers+1368-TCDD/F+1379-TCDD) Solvent: Nonane 1,3,6,8-Tetrachlorodibenzo-p-dioxin ..... 1000 ng/mL 1,3,6,8-Tetrachlorodibenzofuran..... 1000 ng/mL 2,3,7,8-Tetrachlorodibenzo-p-dioxin ..... 1000 ng/mL 2,3,7,8-Tetrachlorodibenzofuran..... 1000 ng/mL 1,3,7,9-Tetrachlorodibenzo-p-dioxin ..... 1000 ng/mL 1,2,3,7,8-Pentachlorodibenzo-p-dioxin ..... 1000 ng/mL 1,2,3,7,8-Pentachlorodibenzofuran..... 1000 ng/mL 2,3,4,7,8-Pentachlorodibenzofuran..... 1000 ng/mL 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin ..... 2000 ng/mL 1,2,3,4,7,8-Hexachlorodibenzofuran..... 2000 ng/mL 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin ..... 2000 ng/mL 1,2,3,6,7,8-Hexachlorodibenzofuran..... 2000 ng/mL 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin ..... 2000 ng/mL 1,2,3,7,8,9-Hexachlorodibenzofuran..... 2000 ng/mL 2,3,4,6,7,8-Hexachlorodibenzofuran..... 2000 ng/mL 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin..... 2000 ng/mL 1,2,3,4,6,7,8-Heptachlorodibenzofuran ..... 2000 ng/mL 1,2,3,4,7,8,9-Heptachlorodibenzofuran ..... 2000 ng/mL Octachlorodibenzo-p-dioxin..... 5000 ng/mL Octachlorodibenzofuran ..... 5000 ng/mL	1.2 mL

Isotope labelled dioxin and furan standard mixtures

Code	Product	Unit
CIL-EDF-5454	Dioxin and furan cleanup/sampling standards(CS/SS) ($^{37}Cl_4$, 96%; $^{13}C_{12}$, 99%) Solvent: Nonane 2,3,7,8-Tetrachlordibenzo-p-dioxin ($^{37}Cl_4$,96%) ..... 10 ng/mL 1,2,3,4,7-Pentachlorodibenzo-p-dioxin ($^{13}C_{12}$,99%)..... 10 ng/mL 1,2,3,4,6-Pentachlorodibenzofuran ($^{13}C_{12}$,99%) ..... 10 ng/mL 1,2,3,4,6,9-Hexachlorodibenzofuran ($^{13}C_{12}$,99%)..... 10 ng/mL 1,2,3,4,6,8,9-Heptachlorodibenzofuran ($^{13}C_{12}$,99%) ..... 10 ng/mL	5 mL
CIL-EDF-5454-A	Dioxin and furan cleanup/sampling standards(CS/SS) ($^{37}Cl_4$, 96%; $^{13}C_{12}$, 99%) Solvent: Nonane 2,3,7,8-Tetrachlordibenzo-p-dioxin (37Cl4,96%) ..... 40 ng/mL 1,2,3,4,7-Pentachlorodibenzo-p-dioxin (13C12,99%) ..... 100 ng/mL 1,2,3,4,6-Pentachlorodibenzofuran (13C12,99%)..... 100 ng/mL 1,2,3,4,6,9-Hexachlorodibenzofuran (13C12,99%)..... 100 ng/mL 1,2,3,4,6,8,9-Heptachlorodibenzofuran (13C12,99%)..... 100 ng/mL	5 mL

Standards and standard mixtures PCB standards and standard mixtures

Unlabelled certified PCB standards

Code	Product	Unit
CIL-PCB-182-CS	2,2',3,4,4',5,6'-Heptachlorobiphenyl 100 µg/mL in Isooctane	1.2 mL

WHO PCB mixtures

CIL-EC-4935-B — WHO Coplanar & Mono-Ortho PCBs (unlabelled) — 1.2 mL

Solvent: Isooctane

Unlabelled PCBs	IUPAC#	Concentration
3,3',4,4'-TetraCB	77	5000 ng/mL
3,4,4',5-TetraCB	81	5000 ng/mL
2,3,3',4,4'-PentaCB	105	5000 ng/mL
2,3,4,4',5-PentaCB	114	5000 ng/mL
2,3',4,4',5-PentaCB	118	5000 ng/mL
2',3,4,4',5-PentaCB	123	5000 ng/mL
3,3',4,4',5-PentaCB	126	5000 ng/mL
2,3,3',4,4',5-HexaCB	156	5000 ng/mL
2,3,3',4,4',5'-HexaCB	157	5000 ng/mL
2,3',4,4',5,5'-HexaCB	167	5000 ng/mL
3,3',4,4',5,5'-HexaCB	169	5000 ng/mL
2,3,3',4,4',5,5'-HeptaCB	189	5000 ng/mL

Rapid PCB screening standard mixtures

CIL-EC-5448-CS0.02 — Rapid PCB Screening Calibration Solutions CS0.02 (unlabelled/$^{13}C_{12}$,99%)ng/mL — 0.2 mL

Native Compounds	IUPAC#	Concentration
2,4,4'-TriB	28	0.02 ng/mL
2,2',5-TriB	18	0.02 ng/mL
2,2',3,5'-TetraCB	44	0.02 ng/mL
2,3',4',5-TetraCB	70	0.02 ng/mL
2,2',5,5'-TetraCB	52	0.02 ng/mL
2,2',4,5,5'-PentaCB	101	0.02 ng/mL
2,3,3',4',6-PentaCB	110	0.02 ng/mL
2,3',4,4',5-PentaCB	118	0.02 ng/mL
2,2',3,4',5',6-HexaCB	149	0.02 ng/mL
2,2',3,4,4',5'-HexaCB	138	0.02 ng/mL
2,2',4,4',5,5'-HexaCB	153	0.02 ng/mL
2,2',3,4,4',5,5'-HeptaCB	180	0.02 ng/mL
2,2',3,4',5,5',6-HeptaCB	187	0.02 ng/mL
^{13}C-Labelled Compounds		
2,4,4'-TriCB ($^{13}C_{12}$, 99%)	28L	10 ng/mL
2,3',4,5-TetraCB ($^{13}C_{12}$,99%)	70L	10 ng/mL
2,2',5,5'-TetraCB ($^{13}C_{12}$,99%)	52L	10 ng/mL
2,2',4,5,5'-PentaCB ($^{13}C_{12}$,99%)	101L	10 ng/mL
2,3',4,4',5-PentaCB ($^{13}C_{12}$,99%)	118L	10 ng/mL
2,2',3,4,4',5'-HexaCB ($^{13}C_{12}$,99%)	138L	10 ng/mL
2,2',4,4',5,5'-HexaCB ($^{13}C_{12}$,99%)	153L	10 ng/mL
2,2',3,4,5,5'-HexaCB ($^{13}C_{12}$,99%)	141L	10 ng/mL
2,2',3,4,4',5,5'-HeptaCB ($^{13}C_{12}$,99%)	180L	10ng/mL

Mono-deca plus predominant PCB standard mixtures

CIL-EC-5411-A — Modified Predominant Mono-Deca PCBs (13C12, 99%) alt. A — 1.2 mL

Solvent: Nonane

^{13}C-Labelled PCBs	IUPAC#	Concentration
4-MonoCB ($^{13}C_{12}$,99%)	3L	2000 ng/mL
2,4'-DiCB ($^{13}C_{12}$,99%)	8L	2000 ng/mL
2,4,4'-TriCB ($^{13}C_{12}$,99%)	28L	1000 ng/mL
2,2',5,5'-TetraCB ($^{13}C_{12}$,99%)	52L	1000 ng/mL
2,2',4,5,5'-PentaCB ($^{13}C_{12}$,99%)	101L	1000 ng/mL
2,2',4,4',5,5'-HexaCB($^{13}C_{12}$,99%)	153L	1000 ng/mL
2,2',3,3'4,4',5-HeptaCB ($^{13}C_{12}$,99%)	170L	1000 ng/mL
2,2',3,4,4',5,5'-HeptaCB ($^{13}C_{12}$,99%)	180L	1000 ng/mL
2,2',3,3',4,4',5,5'-OctaCB ($^{13}C_{12}$,99%)	194L	2000 ng/mL
2,2',3,3',4,4',5,5',6-NonaCB ($^{13}C_{12}$,99%)	206L	2000 ng/mL
2,2',3,3',4,4',5,5',6,6'-DecaCB ($^{13}C_{12}$,99%)	209L	2000 ng/mL

CDC PCB Standard Mixtures

Code	Product	Unit
CIL-EC-5367-200X-1.2	CDC PCB Spiking Standard (13C12, 99%) 200X stock in Nonane Solvent: Methanol	1.2 mL

Labelled PCB	IUPAC#	Concentration	
2,4,4'-Trichlorobiphenyl ($^{13}C_{12}$, 99%)	28	1500 ng/mL	
2,2',5,5'-Tetrachlorobiphenyl ($^{13}C_{12}$, 99%)	52	1500 ng/mL	
2,2',4,5,5'-Pentachlorobiphenyl ($^{13}C_{12}$, 99%)	101	1500 ng/mL	
2',3,4,4',5-Pentachlorobiphenyl ($^{13}C_{12}$, 99%)	123	1500 ng/mL	
2,3',4,4',5-Pentachlorobiphenyl ($^{13}C_{12}$, 99%)	118	1500 ng/mL	
2,3,4,4',5-Pentachlorobiphenyl ($^{13}C_{12}$, 99%)	114	1500 ng/mL	
2,2',4,4',5,5'-Hexachlorobiphenyl ($^{13}C_{12}$, 99%)	153	1500 ng/mL	
2,3,3',4,4'-Pentachlorobiphenyl ($^{13}C_{12}$, 99%)	105	1500 ng/mL	
2,2',3,3',5,5',6-Heptachlorobiphenyl ($^{13}C_{12}$, 99%)	178	1500 ng/mL	
2,2',3,4,4',5'-Hexachlorobiphenyl ($^{13}C_{12}$, 99%)	138	1500 ng/mL	
2,2',3,3',4,4'-Hexachlorobiphenyl ($^{13}C_{12}$, 99%)	128	1500 ng/mL	
2,3',4,4',5,5'-Hexachlorobiphenyl ($^{13}C_{12}$, 99%)	167	1500 ng/mL	
2,3,3',4,4',5-Hexachlorobiphenyl ($^{13}C_{12}$, 99%)	156	1500 ng/mL	
2,3,3',4,4',5'-Hexachlorobiphenyl ($^{13}C_{12}$, 99%)	157	1500 ng/mL	
2,2',3,4,4',5,5'-Heptachlorobiphenyl ($^{13}C_{12}$, 99%)	180	1500 ng/mL	
2,2',3,3',4,4',5-Heptachlorobiphenyl ($^{13}C_{12}$, 99%)	170	1500 ng/mL	
2,3,3',4,4',5,5'-Heptachlorobiphenyl ($^{13}C_{12}$, 99%)	189	1500 ng/mL	
2,2',3,3',4,4',5,5'-Octachlorobiphenyl ($^{13}C_{12}$, 99%)	194	1500 ng/mL	
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl ($^{13}C_{12}$, 99%)	206	1500 ng/mL	
Decachlorobiphenyl ($^{13}C_{12}$, 99%)	209	1500 ng/mL	

Code	Product	Unit
CIL-EC-5492	CDC PCB Recovery Standard Check Solution (unlabelled) Solvent: Toluene	1 mL

	IUPAC#	Concentration
2,4,4'-TriCB	28	200 ng/mL
2,2',4,4',5,5'-HexaCB	153	200 ng/mL
2,3,3',4,4'-PentaCB	105	200 ng/mL
2,3',4,4',5,5'-HexaCB	167	200 ng/mL

Isotope labelled PCB standard mixtures

Code	Product	Unit
CIL-EC-5375	Marker-7 PCB Mixture (w/ PCB-118) (13C12, 99%) Solvent: Nonane	1.2 mL

	IUPAC#	Concentration
2,4,4'-TriCB ($^{13}C_{12}$,99%)	28	1000 ng/mL
2,2',5,5'-TetraCB ($^{13}C_{12}$,99%)	52	1000 ng/mL
2,2',4,5,5'-PentaCB ($^{13}C_{12}$,99%)	101	1000 ng/mL
2,3',4,4',5-PentaCB ($^{13}C_{12}$,99%)	118	1000 ng/mL
2,2',4,4',5,5'-HexaCB ($^{13}C_{12}$,99%)	153	1000 ng/mL
2,2',3,4,4',5'-HexaCB ($^{13}C_{12}$,99%)	138	1000 ng/mL
2,2',3,4,4',5,5'-HeptaCB ($^{13}C_{12}$,99%)	180	1000 ng/mL

Code	Product	Unit
CIL-ES-5499-2.2	PCB/pollutant mixture(^{13}C, 99%) in Hexane Solvent: Hexane	2.2 ml

2,4,4'-TriCB ($^{13}C_{12}$,99%) (PCB 28)		10 000 ng/mL
2,2',5,5'-TetraCB ($^{13}C_{12}$,99%) (PCB 52).		10 000 ng/mL
2,2',4,5,5'-PentaCB ($^{13}C_{12}$,99%) (PCB 101)		10 000 ng/mL
2,2',4,4',5,5'-HexaCB ($^{13}C_{12}$,99%) (PCB 153)		10 000 ng/mL
4,4'-DDT($^{13}C_{12}$,99%)		10 000 ng/mL
Hexachlorobenzene($^{13}C_6$,99%)		50 000 ng/mL
1,2,4,5-Tetrachlorobenzene($^{13}C_6$,99%)		50 000 ng/mL

Unlabelled PCB standard mixtures

Code	Product	Unit
CIL-EC-5460	UNEP OC Pesticide ECD Internal Standard Mixture (unlabelled) in Isooctane Solvent: Isooctane	1.2 mL

Unlabelled Compounds	IUPAC#	Concentration
2,3,3',5,6-Pentachlorobiphenyl	112	5 µg/mL
2,2',4,4',6,6'-Hexachlorobiphenyl	155	5 µg/mL
2,2',3,3',4,5,5',6-Octachlorobiphenyl	198	5 µg/mL

Code	Product	Unit
CIL-EC-5502	UNEP PCB working solution 1 unlabeled in Isooctane Solvent: Isooctane	3 mL

Unlabelled Compounds	IUPAC#	Concentration
2,4,4'-TriCB	28	2.0 ng/mL
2,2',5,5'-TetraCB	52	2.5 ng/mL
2,2',4,5,5'-PentaCB	101	4.0 ng/mL
2,2',3,4,4',5'-HexaCB	138	4.0 ng/mL
2,2',4,4',5,5'-HexaCB	153	5.0 ng/mL
2,2',3,4,4',5,5'-HeptaCB	180	6.0 ng/mL

Code	Product	Unit
CIL-EC-5495	Marker-7 PCB Mixture (w/ PCB-118) (unlabelled) Solvent: Isooctane 2,4,4'-TriCB ..... IUPAC# 28 ..... Concentration 1000 ng/mL 2,2',5,5'-TetraCB ..... 52 ..... 1000 ng/mL 2,2',4,5,5'-PentaCB ..... 101 ..... 1000 ng/mL 2,3',4,4',5-PentaCB ..... 118 ..... 1000 ng/mL 2,2',4,4',5,5'-HexaCB ..... 153 ..... 1000 ng/mL 2,2',3,4,4',5'-HexaCB ..... 138 ..... 1000 ng/mL 2,2',3,4,4',5,5'-HeptaCB ..... 180 ..... 1000 ng/mL	1.2 mL
CIL-ES-5501	PCB/pollutant native mixture unlabeled in Hexane Solvent: Hexane 2,4,4'-TriCB (PCB 28) ..... 10000 ng/mL 2,2',5,5'-TetraCB (PCB 52)..... 10000 ng/mL 2,2',4,5,5'-PentaCB (PCB 101)..... 10000 ng/mL 2,2',4,4',5,5'-HexaCB (PCB 153)..... 10000 ng/mL 4,4'-DDT..... 10000 ng/mL Hexachlorobenzene..... 10000 ng/mL 1,2,4,5-Tetrachlorobenzene ..... 10000 ng/mL	1.2 mL

Methoxy-PCBs

CIL-MEOCB-5485-1.2	2,3,3',4',5-Pentachloro-4-methoxybiphenyl ($^{13}C_{12}$,99%) 50 µg/mL in Toluene	1.2 mL
CIL-MEOCB-5486-1.2	2,2',3,4',5,5'-Hexachloro-4-methoxybiphenyl ($^{13}C_{12}$,99%) 50 µg/mL in Toluene	1.2 mL

Brominated flame retardant standards

Other flame retardant standards

Code	Product	Unit
CIL-CLM-8569-T-1.2	Dechlorane Plus® syn (bis-cyclopentene-$^{13}C_{10}$,99%) 100 µg/mL in Toluene	1.2 mL
CIL-CLM-8588-T-1.2	Dechlorane Plus® anti (bis-cyclopentene-$^{13}C_{10}$,99%) 100 µg/mL in Toluene	1.2 mL
CIL-ULM-7886-T-1.2	Dechlorane Plus® syn (unlabelled) 100 µg/mL in Toluene	1.2 mL
CIL-ULM-7887-T-1.2	Dechlorane Plus® anti (unlabelled) 100 µg/mL in Toluene	1.2 mL
CIL-DLM-9070-1.2	Triphenyl phosphate(D_{15}, 98%) 1 mg/ml in Acetonitrile	1.2 mL
CIL-ULM-9091-1.2	Triphenyl phosphate (unlabelled) 1 mg/ml in Acetonitrile	1.2 mL

Polycyclic aromatic hydrocarbon (PAH)

Carbon-13 labelled polycyclic aromatic hydrocarbons (PAH) standards

Code	Product	Unit
CIL-CLM-9028-1.2	7-Bromobenz[a]anthracene($^{13}C_6$, 99%) 50 µg/ml in Toluene	1.2 mL
CIL-CLM-9029-1.2	7,12-Dichlorobenz[a]anthracene($^{13}C_6$, 99%) 50 µg/ml in Toluene	1.2 mL
CIL-CLM-6890-T-1.2	3-Hydroxydibenz[a,h]anthracene ($^{13}C_6$, 99%) 50 µg/ml in Toluene	1.2 mL
CIL-CLM-6087-1.2	2-Hydroxyfluorene ($^{13}C_6$,99%) 50 µg/mL in Toluene	1.2 mL
CIL-CLM-7669-1.2	1-Hydroxyphenanthrene ($^{13}C_6$,99%) 50 µg/mL in Toluene	1.2 mL
CIL-CLM-7670-1.2	4-Hydroxyphenanthrene ($^{13}C_6$,99%) 50 µg/mL in Toluene	1.2 mL
CIL-CLM-7700-1.2	9-Hydroxyfluorene ($^{13}C_6$, 99%) 50 µg/mL in toluene	1.2 mL
CIL-CLM-7701-1.2	1-Hydroxynaphthalene ($^{13}C_6$,99%) 50 µg/mL in Toluene	1.2 mL
CIL-CLM-7713-1.2	2-Hydroxynaphthalene ($^{13}C_6$,99%) 50 µg/mL in Toluene	1.2 mL
CIL-CLM-8463-T-1.2	2-Hydroxyphenanthrene ($^{13}C_6$,99%) 50 µg/mL in Toluene	1.2 mL
CIL-CLM-8977-1.2	3-Hydroxyfluorene ($^{13}C_6$,98%) 50 µg/mL in Toluene	1.2 mL
CIL-CLM-8989-1.2	7-Chlorobenz[a]anthracene ($^{13}C_6$,99%) 50 µg/mL in Toluene	1.2 mL
CIL-CLM-9012-1.2	1-Hydroxypyrene ($^{13}C_6$,99%) 50 µg/mL in Toluene	1.2 mL
CIL-CLM-8174-1.2	2-Methyl-1-naphthol(5,6,7,8,9,10-$^{13}C_6$, 99%) 50 µg/ml in Toluene	1.2 mL

Polycyclic aromatic hydrocarbon (PAH)

Code	Product	Unit
CIL-ES-5472	CDC OH-PCB Calibration standard CS1-CS10 (unlabelled/$^{13}C_{12}$, 99%) Solvent: Toluene All concentrations are in ng/mL	10 x 0.5 mL

Unlabelled Component	IUPAC #	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8	CS9	CS10
1-Hydroxynaphthalene		4	8	1	20	200	400	2000	4000	8000	16000
2-Hydroxynaphthalene		4	8	1	20	200	400	2000	4000	8000	16000
2-Hydroxyfluorene		1	2	1	5	50	100	500	1000		
3-Hydroxyfluorene		1	2	1	5	50	100	500	1000		
9-Hydroxyfluorene		1	2	1	5	50	100	500	1000		
1-Hydroxyphenanthrene		1	2	1	5	50	100	500	1000		
2-Hydroxyphenanthrene		1	2	1	5	50	100	500	1000		
3-Hydroxyphenanthrene		1	2	1	5	50	100	500	1000		
4-Hydroxyphenanthrene		1	2	1	5	50	100	500	1000		
1-Hydroxypyrene		1	2	1	5	50	100	500	1000		

^{13}C Labelled Component	IUPAC #	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8	CS9	CS10
2,4,4'-TriCB ($^{13}C_{12}$,99%)	28	100	100	100	100	100	100	100	100	100	100
2,3,3',4,4'-PentaCB ($^{13}C_{12}$,99%)	105	100	100	100	100	100	100	100	100	100	100
2,2',4,4',5,5'-HexaCB ($^{13}C_{12}$,99%)	153	100	100	100	100	100	100	100	100	100	100
2,3',4,4',5,5'-HexaCB ($^{13}C_{12}$,99%)	167	100	100	100	100	100	100	100	100	100	100
1-Hydroxynaphthalene ($^{13}C_6$,99%)		400	400	400	400	400	400	400	400	400	400
2-Hydroxynaphthalene ($^{13}C_6$,99%)		400	400	400	400	400	400	400	400	400	400
2-Hydroxyfluorene ($^{13}C_6$,99%)		100	100	100	100	100	100	100	100	100	100
3-Hydroxyfluorene ($^{13}C_6$,99%)		100	100	100	100	100	100	100	100	100	100
9-Hydroxyfluorene ($^{13}C_6$,99%)		100	100	100	100	100	100	100	100	100	100
1-Hydroxyphenanthrene ($^{13}C_4$,99%)		100	100	100	100	100	100	100	100	100	100
2-Hydroxyphenanthrene ($^{13}C_6$,99%)		100	100	100	100	100	100	100	100	100	100
3-Hydroxyphenanthrene ($^{13}C_6$,99%)		100	100	100	100	100	100	100	100	100	100
4-Hydroxyphenanthrene ($^{13}C_4$,99%)		100	100	100	100	100	100	100	100	100	100
1-Hydroxypyrene ($^{13}C_6$,99%)		100	100	100	100	100	100	100	100	100	100

Code	Product	Unit
CIL-ES-5473	CDC OH-PAH Spiking Standard (13C, 99%) in Acetonitrile Solvent: Acetonitrile	1.5 mL

Labelled component	Concentration	Labelled component	Concentration
1-Hydroxynaphthalene ($^{13}C_6$, 99%)	100 ng/mL	1-Hydroxyphenanthrene ($^{13}C_4$, 99%)	25 ng/mL
2-Hydroxynaphthalene ($^{13}C_6$, 99%)	100 ng/mL	2-Hydroxyphenanthrene ($^{13}C_6$, 99%)	25 ng/mL
2-Hydroxyfluorene ($^{13}C_6$, 99%)	25 ng/mL	3-Hydroxyphenanthrene ($^{13}C_6$, 99%)	25 ng/mL
3-Hydroxyfluorene ($^{13}C_6$, 99%)	25 ng/mL	4-Hydroxyphenanthrene ($^{13}C_4$, 99%)	25 ng/mL
9-Hydroxyfluorene ($^{13}C_6$, 99%)	25 ng/mL	1-Hydroxypyrene ($^{13}C_6$, 99%)	25 ng/mL

Code	Product	Unit
CIL-ES-5474	CDC PCB Recovery Standard for OH-PAHS (13C12,99%) Solvent: Toluene	1 mL

	IUPAC#	Concentration
2,4,4'-TriCB ($^{13}C_{12}$,99%)	28	200 ng/mL
2,3,3',4,4'-PentaCB ($^{13}C_{12}$,99%)	105	200 ng/mL
2,2',4,4',5,5'-HexaCB ($^{13}C_{12}$,99%)	153	200 ng/mL
2,3',4,4',5,5'-HexaCB ($^{13}C_{12}$,99%)	167	200 ng/mL

Unlabelled polycyclic aromatic hydrocarbon (PAH) standards

Code	Product	Unit
CIL-ULM-9011-1.2	7-Chlorobenz[a]anthracene (unlabelled) 50 µg/mL in Toluene	1.2 mL
CIL-ULM-6891-1.2	Cyclopenta[c,d]pyrene (unlabelled) 100 µg/ml in Nonane	1.2 mL
CIL-ES-5484	CDC OH-PAH Native PAR Standard (unlabelled) in Toluene Solvent: Toluene	1.2 mL

1-Hydroxynaphthalene	4000 ng/mL	1-Hydroxyphenanthrene	1000 ng/mL
2-Hydroxynaphthalene	4000 ng/mL	2-Hydroxyphenanthrene	1000 ng/mL
2-Hydroxyfluorene	1000 ng/mL	3-Hydroxyphenanthrene	1000 ng/mL
3-Hydroxyfluorene	1000 ng/mL	4-Hydroxyphenanthrene	1000 ng/mL
9-Hydroxyfluorene	1000 ng/mL	1-Hydroxypyrene	1000 ng/mL

CIL-ULM-2416-I-1.2	Benzo[b]fluoranthene (unlabelled) 200 µg/mL in Isooctane	1.2 mL
CIL-ULM-2417-I-1.2	Benzo[k]fluoranthene (unlabelled) 200 µg/mL in Isooctane	1.2 mL
CIL-ULM-9025-1.2	7-Bromobenz[a]anthracene unlabelled 50 µg/ml in Toluene	1.2 mL
CIL-ULM-2422-T-1.2	Dibenz[a,h]anthracene unlabeled 200 µg/ml in Toluene	1.2 mL
CIL-ULM-2423-A-1.2	Dibenzo[a,i]pyrene (unlabeled) 50 ug/mL in Nonane	1.2 mL
CIL-ULM-9024-1.2	7,12-Dichlorobenz[a]anthracene unlabelled 50 µg/ml in Toluene	1.2 mL
CIL-ULM-9192-1.2	3-Hydroxydibenz[a,h]anthracene unlabelled 50 ug/ml in Toluene	1.2 mL
CIL-ULM-7928-1.2	4-Hydroxyphenanthrene (unlabelled) 50 µg/mL in Toluene	1.2 mL
CIL-ULM-7929-1.2	1-Hydroxyphenanthrene (unlabelled) 50 µg/mL in Toluene	1.2 mL
CIL-ULM-8464-T-1.2	2-Hydroxyphenanthrene (unlabelled) 50 µg/mL in Toluene	1.2 mL
CIL-ULM-8971-1.2	1-Hydroxynaphthalene (unlabelled) 50 µg/mL in Toluene	1.2 mL
CIL-ULM-8972-1.2	2-Hydroxynaphthalene (unlabelled) 50 µg/mL in Toluene	1.2 mL
CIL-ULM-8973-1.2	2-Hydroxyfluorene (unlabelled) 50 ug/mL in Toluene	1.2 mL
CIL-ULM-8974-1.2	3-Hydroxyfluorene (unlabelled) 50 ug/mL in Toluene	1.2 mL
CIL-ULM-8975-1.2	9-Hydroxyfluorene (unlabelled) 50 µg/mL in Toluene	1.2 mL
CIL-ULM-8976-1.2	1-Hydroxypyrene (unlabelled) 50 µg/mL in Toluene	1.2 mL

Code	Product	Unit
CIL-ULM-2426-I-1.2	Indeno[1,2,3-cd]pyrene (unlabelled) 200 µg/mL in Isooctane	1.2 mL
CIL-ULM-8239-1.2	2-Methyl-1-naphthol (unlabelled) 50 µg/mL in Toluene	1.2 mL
CIL-ULM-8790-1.2	5-Nitroacenaphthene (unlabelled) 50 µg/mL in Toluene	1.2 mL

Isotope labelled PAH standard mixtures

CIL-ES-5498 — PAH Two Component Mixture (D, 98%) 2000 ug/mL in 80% isooctane/20% toluene — 1.2 mL

Solvent: 80% Isooctane / 20% Toluene

Benzo[*a*]pyrene (D_{12}, 98%) ... 2000 ng/mL	Fluoranthene (D_{10}, 98%) ... 2000 ng/mL

CIL-ES-5164-1.2 — PAH Surrogate Standard Mixture (D, 98%) 200 µg/mL in 90% Toluene/10% Isooctane — 1.2 mL

200 µg/mL of each analyte in Toluene/Isooctane (9:1)

Naphthalene (D_8, 98%)	Dibenz[*a,h*]anthracene (D_{14}, 98%)
Benz[*a*]anthracene (D_{12}, 98%)	Acenaphthylene (D_8, 98%)
Phenanthrene (D_{10}, 98%)	Acenaphthene (D_{10}, 98%)
Fluoranthene (D_{10}, 98%)	Fluorene (D_{10}, 98%)
Benzo[*b*]fluoranthene (D_{12}, 98%)	Pyrene (D_{10}, 98%)
Benzi[*a*]pyrene (D_{12}, 98%)	Benzo[*k*]fluoranthene (D_{12}, 98%)
Benzo[*g,h,i*]perylene (D_{12}, 98%)	Perylene (D_{12}, 98%)
Indeno[1,2,3-*cd*]pyrene (D_{12}, 98%)	Chryene (D_{12}, 98%)

CIL-ES-5481 — PAH Mixture (D,98%) 2500 µg/mL in Toluene — 5 mL

Solvent: Toluene

Chrysene (D_{12}, 98%) ... 2500 µg/mL	Perylene (D_{12}, 98%) ... 2500 µg/mL
Dibenz[*a,h*]anthracene (D_{14}, 98%) ... 2500 µg/mL	Phenanthrene (D_{10}, 98%) ... 2500 µg/mL
Naphthalene (D_8, 98%) ... 2500 µg/mL	Acenaphthene (D_{10}, 98%) ... 2500 µg/mL

CIL-ES-5474-10X1 — CDC PCB Recovery Standard for OH-PAHS (13C12, 99%) in Toluene — 10 x 1 mL

^{13}C-labelled component (in Toluene)	IUPAC	Concentration (ng/mL)
2,4,4'-TriCB ($^{13}C_{12}$, 99%)	28	200
2,3,3',4,4'-PentaCB ($^{13}C_{12}$, 99%)	105	200
2,2',4,4',5,5'-HexaCB ($^{13}C_{12}$, 99%)	153	200
2,3',4,4',5,5'-HexaCB ($^{13}C_{12}$, 99%)	167	200

Unlabelled PAH standard mixtures

CIL-ES-5503 — PAH-sim recovery standard mixture unlabelled 1 mg/ml in methylene chloride — 1.2 mL

Solvent: Methylene Chloride

Component	Concentration
2-Methylnaphthalene	1 mg/mL
Anthracene	1 mg/mL
p-Terphenyl	1 mg/mL
Benzo[*e*]pyrene	1 mg/mL

Polychlorinated naphthalene (PCN) standards

Isotope labelled polychlorinated naphthalene (PCN) standards

Code	Product	Unit
CIL-ECN-5261-A	1,2,3,5,6,7-Hexachloronaphthalene ($^{13}C_{10}$) 10 µg/mL in Isooctane	1.2 mL
CIL-ECN-5270-A	1,2,3,4,5,6,7-Heptachloronaphthalene ($^{13}C_{10}$) 10 µg/mL in Isooctane	1.2 mL

Polychlorinated naphthalene (PCN) standard mixtures

CIL-ECN-5489 — PCN Calibration Solutions [CS1-CS7] (unlabelled/$^{13}C_{10}$,99%) in Isooctane — 7 x 0.5 mL

Solvent: Isooctane

All concentrations are in ng/mL

Unlabelled component	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**CS7**
1,2,3,4-TetraCN	0.1	0.2	1	2	10	20	100
1,2,3,5,7-PentaCN	0.1	0.2	1	2	10	20	100
1,2,3,4,6,7-HexaCN	0.1	0.2	1	2	10	20	100
1,2,3,5,6,7-HexaCN	0.1	0.2	1	2	10	20	100
1,2,3,5,6,8-HexaCN	0.1	0.2	1	2	10	20	100
1,2,3,4,5,6,7-HeptaCN	0.1	0.2	1	2	10	20	100
OctaCN	0.1	0.2	1	2	10	20	100

Labelled component	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**CS7**
1,2,3,4-TetraCN ($^{13}C_{10}$,99%)	10	10	10	10	10	10	10
1,2,3,5,7-PentaCN ($^{13}C_{10}$,99%)	10	10	10	10	10	10	10
1,2,3,4,5,7-HexaCN ($^{13}C_{10}$,99%)	10	10	10	10	10	10	10
1,2,3,5,6,7-HexaCN ($^{13}C_{10}$,99%)	10	10	10	10	10	10	10
1,2,3,4,5,6,7-HeptaCN ($^{13}C_{10}$,99%)	10	10	10	10	10	10	10
OctaCN ($^{13}C_{10}$,99%)	10	10	10	10	10	10	10
1,2,3,4-TCDD ($^{13}C_{10}$,99%)	25	25	25	25	25	25	25

CIL-ECN-5489-CS1	PCN Calibration Solutions CS1	0.5 mL

Code	Product	Unit
CIL-ECN-5489-CS2	PCN Calibration Solutions CS2	0.5 mL
CIL-ECN-5489-CS3	PCN Calibration Solutions CS3	0.5 mL
CIL-ECN-5489-CS4	PCN Calibration Solutions CS4	0.5 mL
CIL-ECN-5489-CS5	PCN Calibration Solutions CS5	0.5 mL
CIL-ECN-5489-CS6	PCN Calibration Solutions CS6	0.5 mL
CIL-ECN-5489-CS7	PCN Calibration Solutions CS7	0.5 mL
CIL-ECN-5490	PCN Cleanup Solution (13C10) 0.5 ng/mL in Methanol:Isooctane Solvent: Methanol:Isooctane (1:1) 1,2,3,4-TetraCN ($^{13}C_{10}$,99%)..... 0.5 ng/mL 1,2,3,5,7-PentaCN ($^{13}C_{10}$,99%)..... 0.5 ng/mL 1,2,3,4,5,7-HexaCN ($^{13}C_{10}$,99%)..... 0.5 ng/mL 1,2,3,5,6,7-HexaCN ($^{13}C_{10}$,99%)..... 0.5 ng/mL 1,2,3,4,5,6,7-HetaCN ($^{13}C_{10}$,99%)..... 0.5 ng/mL OctaCN ($^{13}C_{10}$,99%) ..... 0.5 ng/mL	5 mL
CIL-ECN-5490-5X5ML	PCN cleanup solution ($^{13}C_{10}$, 99%) in Methanol:Isooctane	5 x 5 mL
CIL-ECN-5497	PCN Native PAR Solution (unlabelled) 1000 ng/mL in Isooctane Solvent: Isooctane 1,2,3,4-TetraCN..... 1000 ng/mL 1,2,3,5,7-PentaCN..... 1000 ng/mL 1,2,3,4,6,7-HexaCN..... 1000 ng/mL 1,2,3,5,6,7-HexaCN..... 1000 ng/mL 1,2,3,5,6,8-HexaCN..... 1000 ng/mL 1,2,3,4,5,6,7-HeptaCN..... 1000 ng/mL OctaCN..... 1000 ng/mL	1.2 mL

Priority pollutants, endocrine disruptor and chemical contaminant standards

Personal care product (PPCP) standards

Code	Product	Unit
CIL-DLM-8811-1.2	2-Butoxyethanol (1,1,2,2-D4, 99%) 1000 µg/mL in Water	1.2 mL
CIL-ULM-6935-MT-1.2	Triclosan (2',4,4'-Trichloro-2-hydroxydiphenyl ether) (unlabelled) 100 µg/mL in MTBE	1.2 mL
CIL-ULM-9046-1.2	2-Butoxyethanol (unlabelled) 1000 µg/mL in Water	1.2 mL

Sex and steroidal hormone standards

CIL-CLM-804-0.1	Cholesterol (3,4-$^{13}C_2$,99%)	0.1 g
CIL-DLM-7953-1.2	Progesterone (2,2,4,6,6,17A,21,21,21-D_9,98%) 100 µg/mL in p-Dioxane	1.2 mL
CIL-ULM-7823-0.1MG	Cortisol (Unlabelled)	0.1 mg
CIL-ULM-8218-0.1MG	Estriol (Unlabelled)	0.1 mg

Prescription and non-prescription drug standards

CIL-DLM-8567-1.2	Diclofenac (phenyl-D_4,98%) (96% chemical purity) 100 µg/mL in Methylene chloride	1.2 mL
CIL-ULM-9023-1.2	Diclofenac (unlabelled) 100 µg/mL in Methylene chloride	1.2 mL

Food and drinking water analysis standards

CIL-CLM-6779-MT-1.2	Triclosan ($^{13}C_{12}$,99%) (2',4,4'-Trichloro-2-hydroxydiphenyl ether) 100 µg/mL in MTBE	1.2 mL
CIL-DLM-119-0.005	(+/-)-Chloramphenicol (ring-D_4,benzyl-D_1,98%)	5 mg
CIL-DLM-119-0.01	(+/-)-Chloramphenicol (ring-D_4,benzyl-D_1,98%)	0.01 g
CIL-DLM-4412-0.2	(-)-Menthol (1,2,6,6-D^4,98%)	0.2 g
CIL-DLM-619-1	Octanoic acid (D_{15}, 98%)	1 g
CIL-DLM-6569-0.1	1,6-Anhydro-beta-d-glucose (Levoglucosan) (D_7, 98%)	0.1 g
CIL-OLM-8283-18O-1.2	Potassium Bromate (90-95% chemical purity)($^{18}O_3$, 98%) 100 ug/ml in ^{18}O-water	1.2 mL

Phthalate & phthalate metabolite standards

CIL-CLM-4589-MT-1.2	Mono-n-octyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%) 100 µg/mL in MTBE	1.2 mL
CIL-CLM-4592-MT-1.2	Monocyclohexyl phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%) 100 µg/mL in MTBE	1.2 mL

Code	Product	Unit
CIL-CLM-8148-MT-1.2	Mono-(2-ethyl-5-carboxypentyl) phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%) 100 µg/mL in MTBE	1.2 mL
CIL-CLM-8232-MT-1.2	Mono-[(2-carboxymethyl)hexyl]phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%) (C.P. 95%) (DEHP Metabolite IV) 100 µg/mL in MTBE	1.2 mL
CIL-ULM-4583-MT-1.2	Mono-2-ethylhexyl phthalate (unlabelled) 100 µg/mL in MTBE	1.2 mL
CIL-ULM-4585-MT-1.2	Monoethyl phthalate (unlabelled) 100 µg/mL in MTBE	1.2 mL
CIL-ULM-4593-MT-1.2	Mono-n-octyl phthalate (unlabelled) 100 µg/mL in MTBE	1.2 mL
CIL-ULM-4651-MT-1.2	Monoisononyl phthalate (unlabelled) 100 µg/mL in MTBE	1.2 mL
CIL-ULM-6848-MT-1.2	Mono(3-carboxypropyl)phthalate (unlabelled) 100 µg/mL in MTBE	1.2 mL
CIL-ULM-7394-MT-1.2	Monocyclohexyl phthalate (unlabelled) 100 µg/mL in MTBE	1.2 mL
CIL-ULM-8233-MT-1.2	Mono-[(2-carboxymethyl)hexyl]phthalate (unlabelled) (DEHP Metabolite IV) 100 µg/mL in MTBE	1.2 mL
CIL-CLM-4584-MT-1.2	Mono-2-ethylhexyl phthalate(ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%) 100 µg/mL in MTBE	1.2 mL
CIL-CLM-6847-MT-1.2	Mono(3-carboxypropyl)phthalate (ring-1,2-$^{13}C_2$, dicarboxyl-$^{13}C_2$, 99%) 100 µg/mL in MTBE	1.2 mL
CIL-ULM-7466-1.2	Di-n-butyl phthalate (unlabelled) 100 µg/mL in Nonane	1.2 mL
CIL-ULM-7551-1.2	Benzyl butyl phthalate (unlabelled) 100 µg/mL in Nonane	1.2 mL
CIL-ULM-8149-MT-1.2	Mono-(2-ethyl-5-carboxypentyl) phthalate (DEHP Metabolite V) 100 µg/mL in MTBE	1.2 mL
CIL-ULM-4662-MT-1.2	Mono-(2-ethyl-5-hydroxyhexyl)phthalate unlabelled (DEHP Metabolite IX) 100 µg/mL in MTBE	1.2 mL
CIL-ULM-8301-MT-1.2	Phthalic acid unlabeled 100 ug/ml in MTBE	1.2 mL
CIL-CLM-6071-MT-1.2	Monomethyl phthalate (ring-1,2-$^{13}C_2$; dicarboxyl-$^{13}C_2$,99%) 100 µg/mL in MTBE	1.2 mL
CIL-ULM-6697-MT-1.2	Monomethyl phthalate (unlabelled) 100 µg/mL in MTBE	1.2 mL

Nonylphenol and nonylphenol metabolites

CIL-CLM-4306-M-1.2	p-n-Nonylphenol (ring-$^{13}C_6$,99%) 100 µg/mL in Methanol	1.2 mL
CIL-CLM-4307-M-1.2	p-n-Nonylphenol diethoxylate ($^{13}C_6$,99%) 100 µg/mL in Methanol	1.2 mL
CIL-CLM-4512-M-1.2	p-n-Nonylphenol monoethoxylate ($^{13}C_6$,99%) 100 µg/mL in Methanol	1.2 mL
CIL-ULM-4520-M-1.2	p-n-nonylphenol monoethoxylate unlabeled 100 ug/ml in Methanol	1.2 mL
CIL-ULM-4521-M-1.2	p-n-nonylphenol diethoxylate unlabeled 100 ug/ml in Methanol	1.2 mL
CIL-ULM-4559-M-1.2	p-n-nonylphenol unlabeled 100 ug/ml in Methanol	1.2 mL

Perfluorinated compounds

CIL-CLM-8789-1.2	Perfluoroundecanoic acid, sodium salt ($^{13}C_9$,99%) 50 µg/mL in Methanol	1.2 mL

Tobacco metabolite and flavoring standards

CIL-ULM-8987-1.2	NNK (unlabelled) 100 µg/mL in Nonane/Ethanol (9:1) $C_{10}H_{13}N_3O_2$	1.2 mL

Halogenated and substituted benzene and phenol standards

CIL-DLM-2139-0.1	1,3-Dichlorobenzene (D_4, 98%)	0.1 g
CIL-CLM-8992-1.2	Pentabromoanisole ($^{13}C_6$,99%) 100 µg/mL in Toluene	1.2 mL
CIL-ULM-8991-1.2	Pentabromoanisole (unlabelled) 100 µg/mL in Toluene	1.2 mL

Other industrial chemicals

Priority pollutants, endocrine disruptor and chemical contaminant standards

Code	Product	Unit
CIL-DLM-4444-0.1	Urethane (Ethyl carbamate) (ethyl-D_5, 98%)	0.1 g
CIL-CLM-2454-0.25	Propargyl Alcohol ($^{13}C_3$,99%)	0.25 g
CIL-DLM-3940-1.2	Tributyl phosphate 1 mg/mL in Acetonitrile (D_{27},98-99%)	1.2 mL
CIL-DLM-8074-1.2	Triethyl phosphate (D_{15},98%) 1 mg/mL in Acetonitrile	1.2 mL
CIL-DLM-3940-1	Tributyl phosphate (D_{27},98-99%)	1 g
CIL-ULM-9032-1.2	Triethyl phosphate (unlabelled) 1 mg/mL in Acetonitrile	1.2 mL
CIL-ULM-9033-1.2	Tributyl phosphate (unlabelled) 1 mg/mL in Acetonitrile	1.2 mL

Priority pollutant standards

CIL-CLM-2090-0.5	Bromodichloromethane (^{13}C,99%) (stabilized with K_2CO_3)	0.5 g
CIL-DLM-3017-0.1	p-Cresol (D_8,98%)	0.1 g
CIL-DLM-3017-1	p-Cresol (D_8,98%)	1 g
CIL-DLM-1843-1	trans-Decalin (D_{18},98%)	1 g
CIL-ULM-2422-T-1.2	Dibenz[a,h]anthracene unlabeled 200 µg/ml in Toluene	1.2 mL
CIL-DLM-2139-0.1	1,3-Dichlorobenzene (D_4, 98%)	0.1 g
CIL-ULM-7526-1.2	Hexachloro-1,3-butadiene unlabelled 100 µg/ml in Isooctane	1.2 mL
CIL-CLM-9000-1.2	1,5,5,6,6,10-Hexachlorodecane (13C10) 100 µg/mL in Nonane	1.2 mL
CIL-ULM-8917-1.2	1,5,5,6,6,10-Hexachlorodecane (unlabelled) (95%+ chemical purity) 100 µg/mL in Nonane	1.2 mL
CIL-CLM-4323-MT-1.2	Phthalic acid (ring-1,2-$^{13}C_2$;99%; dicarboxyl-$^{13}C_2$,99%) 100 µg/mL in MTBE	1.2 mL
CIL-DLM-32-1	(DSS) Sodium 2,2-dimethyl-2-silapentane-5-sulfonate ((CH3)3Si(CH2)3SO3Na)	1 g
CIL-CLM-8792-1.2	Sodium bis(2-ethylhexyl) sulfosuccinate (DOSS) (fumaric acid-$^{13}C_4$,99%) 100 µg/mL in Acetonitrile	1.2 mL
CIL-ULM-8807-1.2	Sodium bis(2-ethylhexyl) sulfosuccinate (DOSS) 100 µg/mL in Acetonitrile	1.2 mL
CIL-ULM-9001-1.2	Sodium perfluorooctanesulfonate (PFOS) unlabelled 50 ug/ml in Methanol	1.2 mL
CIL-ULM-9001-S/20-1.2	Sodium perfluorooctanesulfonate (PFOS) unlabelled 2.5 ug/ml in Methanol	1.2 mL
CIL-ULM-8224-1.2	Vinyl chloride (unlabelled) 50 µg/mL in Methanol	1.2 mL

Priority pollutant mixtures

CIL-ES-5482	Phenolic Calibration Standards [CS1-CS6] (unlabelled/13C,99%) in Nonane Solvent: Nonane All concentrations are in ng/mL	6 x 0.5 mL

Unlabelled component	**IUPAC**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**
4-Methoxy-2,3,3',4',5-pentachlorobiphenyl		0.52	1.04	10.4	104	520	5200
4-Methoxy-2,2',3,4',5,5'-hexachlorobiphenyl		0.52	1.04	10.4	104	519	5190
4-Methoxy-2,2',3,4',5,5',6-heptachlorobiphenyl		0.52	1.03	10.3	103	517	5170
Pentachloroanisole		0.53	1.05	10.5	105	526	5260
5-Chloro-2-(2,4-dichlorophenoxy)-anisole		0.52	1.05	10.5	105	524	5240
Pentabromoanisole		0.51	1.03	10.3	103	514	5140
^{13}C-labelled component	**IUPAC**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**
4-Methoxy-2,3,3',4',5-pentachlorobiphenyl ($^{13}C_{12}$,99%)		104	104	104	104	104	104
4-Methoxy-2,2',3,4',5,5'-hexachlorobiphenyl ($^{13}C_{12}$,99%)		104	104	104	104	104	104
4-Methoxy-2,2',3,4',5,5',6-heptachlorobiphenyl ($^{13}C_{12}$,99%)		103	103	103	103	103	103
Pentachloroanisole ($^{13}C_6$,99%)		263	263	263	263	263	263
5-Chloro-2-(2,4-dichlorophenoxy)-anisole ($^{13}C_{12}$,99%)		262	262	262	262	262	262
Pentabromoanisole ($^{13}C_6$,99%)		103	103	103	103	103	103
1,2,3,4-TCDD ($^{13}C_6$,99%)		25	25	25	25	25	25
2,2',3,3',4,5,6',6,6'-NonaCB ($^{13}C_{12}$,99%)	208	100	100	100	100	100	100
3,3',4,4'-TetraBD ($^{13}C_{12}$,99%)	77	75	75	75	75	75	75
2,2',3,4,4',6-HexaBDE ($^{13}C_{12}$,99%)	139	75	75	75	75	75	75

CIL-ES-5482-CS1	Phenolic Calibration Standards CS1	0.5 mL
CIL-ES-5482-CS2	Phenolic Calibration Standards CS2	0.5 mL
CIL-ES-5482-CS3	Phenolic Calibration Standards CS3	0.5 mL
CIL-ES-5482-CS4	Phenolic Calibration Standards CS4	0.5 mL
CIL-ES-5482-CS5	Phenolic Calibration Standards CS5	0.5 mL
CIL-ES-5482-CS6	Phenolic Calibration Standards CS6	0.5 mL

Code	Product	Unit
CIL-ES-5483	Phenolic Spiking Standard (13C) 10/25 ng/mL in Methanol Solvent: Methanol 2,3,3',4',5-pentachloro-4-biphenyl ($^{13}C_{12}$, 99%) ..... 10 ng/mL 2,2',3,4',5,5'-hexachloro-4-biphenyl ($^{13}C_{12}$, 99%)..... 10 ng/mL 2,2',3,4',5,5'-heptachloro-4-biphenyl ($^{13}C_{12}$, 99%..... 10 ng/mL Pentachlorophenol ($^{13}C_6$, 99%)..... ..... 25 ng/mL 5-Chloro-2-(2,4-dichlorophenoxy)-phenol ($^{13}C_{12}$, 99%)..... 25 ng/mL Pentabromophenol ($^{13}C_6$, 99%) 10ng/mL	10 mL
CIL-ES-5496	Phenolic Native PAR standard (unlabelled) 5000 ng/mL in Nonane Solvent: Nonane 4-Methoxy-2,3,3',4',5-pentachlorobiphenylol ..... 5000 ng/mL 4-Methoxy-2,2',3,4',5,5'-hexachlorobiphenylol..... 5000 ng/mL 4-Methoxy-2,2',3,4',5,5',6-heptachlorobiphenylol ..... 5000 ng/mL Pentachloroanisole..... ..... 5000 ng/mL 5-Chloro-2-(2,4-dichlorophenoxy)-anisole ..... 5000 ng/mL Pentabromoanisole .... 5000 ng/mL	1.2 mL

Pesticide and chemical weapon standards

Individual chlorinated cyclodiene pesticide standards

Code	Product	Unit
CIL-CLM-4815-1.2	Endrin aldehyde ($^{13}C_{12}$,99%)	1.2 mL
CIL-ULM-8958-1.2	Endrin aldehyde unlabeled 100 µg/ml in Nonane	1.2 mL
CIL-ULM-8958-50	Endrin Aldehyde (unlabelled)	50 µg
CIL-CLM-4816-1.2	Endrin ketone ($^{13}C_{12}$,99%)	1.2 mL
CIL-ULM-8956-1.2	Endrin ketone unlabeled 100 µg/ml in Nonane	1.2 mL
CIL-ULM-8956-50	Endrin Ketone (unlabelled)	50 µg

Organophosphorous pesticide metabolites

CIL-DLM-7149-1.2	Methamidophos (dimethyl-D_6,98%) 100 µg/mL in Dioxane	1.2 mL
CIL-DLM-7149-100X-1.2	Methamidophos (dimethyl-D_6, 98%) 10 mg/ml in Dioxane	1.2 mL
CIL-ULM-8872-1.2	Methamidophos (unlabelled) 100 µg/mL in Dioxane	1.2 mL

Pyrethroid pesticide and metabolite standards

CIL-CDLM-9205-1.2	cis-DCCA 100 µg/ml in Acetonitrile-D_3(1, Carboxyl-$^{13}C_2$, 99%; 1-D, 98%)	1.2 mL
CIL-ULM-9176-1.2	cis-DCCA unlabeled 100 µg/ml in Acetonitrile	1.2 mL
CIL-ULM-9175-1.2	trans-DCCA unlabeled 100 ug/ml in Acetonitrile	1.2 mL

Individual pesticide standards and pesticide metabolite standards

CIL-CDLM-9205-1.2	cis-DCCA 100 µg/ml in Acetonitrile-D_3(1, Carboxyl-$^{13}C_2$, 99%; 1-D, 98%)	1.2 mL
CIL-ULM-9176-1.2	cis-DCCA unlabeled 100 µg/ml in Acetonitrile	1.2 mL
CIL-CDLM-9206-1.2	trans-DCCA (trans-3-(2,2-Dichlorovinyl)-2,2-dimethyl-1-cyclopropane) carboxylic acid ($^{13}C_2$, 99%; 1-D, 98%) 100 µg/mL in Acetonitrile-D_3	1.2 mL
CIL-ULM-9175-1.2	trans-DCCA unlabeled 100 ug/ml in Acetonitrile	1.2 mL
CIL-CLM-9050	2-[(Dimethoxyphosphorothioyl)sulfanyl]succinicacid ($^{13}C_4$, 99%) chemical purity 97%	Each

Pesticide standard mixtures

CIL-EC-5477	Chlorinated Internal Standard Stock Solution 1 (unlabelled) Solvent: Nonane IUPAC# Concentration Tetrachloro-*m*-xylene..... ..... 25 µg/mL Decachlorobiphenyl..... 209 ..... 25 ng/mL	1.2 mL

Code	Product	Unit
CIL-ES-5019-A	Persistent pesticide calibration solutions [CS1-CS10] Solvent: Nonane All concentrations are in ng/mL	10 x 0.25 mL

Unlabelled Component	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8	CS9	CS10
Hexachlorobenzene	1.0	2.5	10	35	100	300	500	1000		
beta-BHC	1.0	2.5	10	35	100	300	500	1000		
Lindane	1.0	2.5	10	35	100	300	500	1000		
cis-Heptachlor Epoxide	1.0	2.5	10	35	100	300	500	1000		
Oxychlordane	1.0	2.5	10	35	100	300	500	1000		
trans-Nonachlor	1.0	2.5	10	35	100	300	500	1000		
4,4'-DDE	1.0	2.5	10	35	100	300	500	1000	3000	6000
Dieldrin	1.0	2.5	10	35	100	300	500	1000		
2,4'-DDT	1.0	2.5	10	35	100	300	500	1000	3000	6000
4,4'-DDT	1.0	2.5	10	35	100	300	500	1000		
Mirex	1.0	2.5	10	35	100	300	500	1000		
Dechlorane Plus Syn	1.0	2.5	10	35	100	300	500	1000		
Dechlorane Plus Anti	1.0	2.5	10	35	100	300	500	1000		

^{13}C-Labelled Component	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8	CS9	CS10
Hexachlorobenzene ($^{13}C_6$,99%)	75	75	75	75	75	75	75	75	75	75
Dieldrin ($^{13}C_{12}$,99%)	75	75	75	75	75	75	75	75	75	75
beta-BHC ($^{13}C_6$,99%)	75	75	75	75	75	75	75	75	75	75
Lindane ($^{13}C_6$,99%)	75	75	75	75	75	75	75	75	75	75
cis-Heptachlor Epoxide (^{13}C10,99%)	75	75	75	75	75	75	75	75	75	75
Oxychlordane ($^{13}C_{10}$,99%)	75	75	75	75	75	75	75	75	75	75
trans-Nonachlor ($^{13}C_{10}$,99%)	75	75	75	75	75	75	75	75	75	75
Mirex ($^{13}C_{10}$,99%)	75	75	75	75	75	75	75	75	75	75
2,4'-DDT ($^{13}C_{12}$,99%)	75	75	75	75	75	75	75	75	75	75
4,4'-DDT ($^{13}C_{12}$,99%)	75	75	75	75	75	75	75	75	75	75
4,4'-DDE ($^{13}C_{12}$,99%)	150	150	150	150	150	150	150	150	150	150
1,2,3,4-TCDD ($^{13}C_6$,99%)	25	25	25	25	25	25	25	25	25	25
2,2',3,3',4,5,5',6,6'-NonaCB ($^{13}C_{12}$,99%)	100	100	100	100	100	100	100	100	100	100
3,3',4,4'-TetraBDE ($^{13}C_{12}$,99%)	75	75	75	75	75	75	75	75	75	75
2,2',3,4,4',6-HexaBDE ($^{13}C_{12}$,99%)	75	75	75	75	75	75	75	75	75	75

Code	Product	Unit
CIL-ES-5019-A-CS1	Persistent pesticide calibration solutions [CS1]	0.25 mL
CIL-ES-5019-A-CS8	Persistent pesticide calibration solutions [CS8]	0.25 mL
CIL-ES-5449-10	CDC POPs (w/parlars) Spiking Standard (^{13}C,99%)	10 mL

Labelled Compound	Concentration	Labelled Compound	Concentration
Parlar 26 ($^{13}C_{10}$,99%)	7.5 ng/mL	Isodrin ($^{13}C_{10}$,99%)	7.5 ng/mL
Parlar 50 ($^{13}C_{10}$,99%)	7.5 ng/mL	2,4'-DDT ($^{13}C_{10}$,99%)	7.5 ng/mL
Parlar 62 ($^{13}C_{10}$,99%)	7.5 ng/mL	4,4'-DDT ($^{13}C_{10}$,99%)	7.5 ng/mL
Hexachlorobenzene($^{13}C_6$,99%)	7.5 ng/mL	Mirex ($^{13}C_{10}$,99%)	7.5 ng/mL
beta-BHC ($^{13}C_6$,99%)	7.5 ng/mL	alpha-BHC ($^{13}C_6$,99%)	7.5 ng/mL
Lindane ($^{13}C_6$,99%)	7.5 ng/mL	cis-Chlordane(α)($^{13}C_{10}$,99%)	7.5 ng/mL
Aldrin ($^{13}C_{12}$,99%)	7.5 ng/mL	trans-Chlordane(γ)($^{13}C_{10}$,99%)	7.5 ng/mL
cis-Heptachlor Epoxide ($^{13}C_{10}$,99%)	7.5 ng/mL	2,4'-DDE ($^{13}C_{10}$,99%)	7.5 ng/mL
Oxychlordane ($^{13}C_{10}$,99%)	7.5 ng/mL	cis-Nonachlor ($^{13}C_{10}$,99%)	7.5 ng/mL
trans-Nonachlor ($^{13}C_{10}$,99%)	7.5 ng/mL	Methoxychlor ($^{13}C_{10}$,99%)	7.5 ng/mL
4,4'-DDE ($^{13}C_{12}$,99%)	15.0 ng/mL	Pentachloroanisole($^{13}C_6$,99%)	7.5 ng/mL
Dieldrin ($^{13}C_{10}$,99%)	7.5 ng/mL	Octachlorostyrene ($^{13}C_8$,99%)	7.5 ng/mL
Endrin ($^{13}C_{10}$,99%)	7.5 ng/mL		

Code	Product	Unit
CIL-ES-5465-5X	Expanded POPS Pesticides Cleanup Spike (^{13}C,99%) (5X Stock) Solvent: Nonane	1.2 mL

Labelled compound	Concentration
Hexachlorobenzene ($^{13}C_6$,99%)	500 ng/mL
Pentachlorobenzene ($^{13}C_6$,99%)	500 ng/mL
Aldrin ($^{13}C_{12}$,99%)	500 ng/mL
Dieldrin ($^{13}C_{12}$99%)	500 ng/mL
Endrin ($^{13}C_{12}$,99%)	500 ng/mL
4,4'-DDT ($^{13}C_{12}$,99%)	500 ng/mL
4,4'-DDE ($^{13}C_{12}$,99%)	500 ng/mL
4,4'-DDD ($^{13}C_{12}$,99%)	500 ng/mL
2,4'-DDT ($^{13}C_{12}$,99%)	500 ng/mL
2,4'-DDE ($^{13}C_{12}$99%)	500 ng/mL
2,4'-DDD ($^{13}C_{12}$99%)	500 ng/mL
trans-Chlordane (gamma) ($^{13}C_{10}$,99%)	500 ng/mL
trans-Nonachlor ($^{13}C_{10}$,99%)	500 ng/mL
cis-Nonachlor ($^{13}C_{10}$,99%)	500 ng/mL
Oxychlordane ($^{13}C_{10}$99%)	500 ng/mL
Heptachlor ($^{13}C_{10}$,99%)	500 ng/mL
cis-Heptachlor epoxide (B isomer) ($^{13}C_{10}$,99%)	500 ng/mL
Mirex ($^{13}C_{10}$,99%)	500 ng/mL
Kepone (Chlordecone) ($^{13}C_{10}$,99%)	500 ng/mL
alpha-BHC (alpha-HCH) ($^{13}C_6$,99%)	500 ng/mL
beta-BHC (beta-HCH) ($^{13}C_6$,99%)	500 ng/mL
gamma-BHC (gamma-HCH) (Lindane) ($^{13}C_6$,99%)	500 ng/mL
delta-BHC (delta-HCH) ($^{13}C_6$,99%)	500 ng/mL
Endosulfan I ($^{13}C_9$,99%)	500 ng/mL
Endosulfan II ($^{13}C_9$,99%)	500 ng/mL

Code	Product	Unit
CIL-ES-5475	Unlabelled Pesticide Stock Solution 1 5 µg/mL of each analyte in Nonane *alpha*-BHC *delta*-BHC Dieldrin *gamma*-BHC *trans*-Heptachlor Epoxide *cis*-Heptachlor Epoxide Heptachlor Oxychlordane 2,4'-DDD 2,4'-DDE 2,4'-DDT 4,4'-DDD 4,4'-DDE 4,4'-DDT *cis*-Nonachlor *trans*-Nonachlor *trans*-Chlordane (gamma) Mirex	1.2 mL
CIL-ES-5476	Unlabelled Pesticide Stock Solution 2 5 µg/mL of each analyte in Nonane Pentachlorobenzene Trifluralin Hexachlorobenzene *beta*-BHC Aldrin Endosulfan (I) (*alpha*) Endosulfan (II) (*beta*) Endrin *cis*-Chlordane Endrin Aldehyde	1.2 mL
CIL-ES-5478	13C-Pesticide Stock Solution 1 (13C,99%) 5 µg/mL of each analyte in Nonane *alpha*-BHC ($^{13}C_6$,99%) *delta*-BHC ($^{13}C_6$,99%) Dieldrin ($^{13}C_{12}$,99%) *gamma*-BHC ($^{13}C_6$,99%) *cis*-Heptachlor Epoxide (^{13}C10,99%) Heptachlor ($^{13}C_{10}$,99%) Oxychlordane ($^{13}C_{10}$,99%) 2,4'-DDD ($^{13}C_{12}$,99%) 2,4'-DDE ($^{13}C_{12}$,99%) 2,4'-DDT ($^{13}C_{12}$,99%) 4,4'-DDD ($^{13}C_{12}$,99%) 4,4'-DDE ($^{13}C_{12}$,99%) 4,4'-DDT ($^{13}C_{12}$,99%) *cis*-Nonachlor ($^{13}C_{10}$,99%) *trans*-Nonachlor ($^{13}C_{10}$,99%) *trans*-Chlordane (gamma) ($^{13}C_{10}$,99%) Mirex ($^{13}C_{10}$,99%)	0.5 mL
CIL-ES-5479	13C-Pesticide Stock Solution 2 (13C,99%) 5 µg/mL of each analyte in Nonane Pentachlorobenzene ($^{13}C_6$,99%) Hexachlorobenzene ($^{13}C_6$,99%) *beta*-HCH ($^{13}C_6$,99%) Aldrin ($^{13}C_{12}$,99%) Endosulfan I (alpha) ($^{13}C_9$,99%) Endosulfan II (beta) ($^{13}C_9$,99%) Endrin ($^{13}C_{12}$,99%) *cis*-Chlordane ($^{13}C_{10}$,99%)	0.5 mL

Chemical weapon metabolite standards

CIL-ERD-155	O,O-Dimethyl dithiophosphate sodium salt 1000 µg/mL in Methanol	1.2 mL

ULTRAcheck® and standards for EPA methods

ULTRAcheck® blind, quality control check standards

Organic blind QC samples for drinking water analysis

Code	Product	Unit
U-QCM-551B	ULTRAcheck WS Chloral Hydrate Sample 1 Analyte Chloral hydrate ..... 4.3 – 32.0 µg/L Dilute 1 mL of sample to 100 mL for final working test sample.	2 mL

EPA 500 Methods

EPA Method 505

Code	Product	Unit
U-PP-150	Chlordane 100 µg/mL in Methanol	4 x 1 mL

EPA Method 525.1

U-47995N	Decafluorotriphenylphosphine 1000 µg/mL in Acetone	4 x 1 mL

EPA Method 554

U-ALD-554A	Carbonyl Compounds Mixture	4 x 1 mL

EPA 600 Methods

Code	Product	Unit
U-ALD-554A-1	Carbonyl Compounds Mixture 1000 µg/mL of each analyte in Acetonitrile Formaldehyde Acetaldehyde Propanal Butanal Pentanal Hexanal Heptanal Octanal Nonanal Decanal Cyclohexanone Crotonalehyde	1 mL
U-ALD-554DA	Derivatised Carbonyl Compounds Mixture	4 x 1 mL
U-ALD-554DA-1	Derivatised Carbonyl Compounds Mixture 1000 µg/ml of each analyte in Acetonitrile Formaldehyde-DNPH Acetaldehyde-DNPH Propanal-DNPH Butanal-DNPH Pentanal-DNPH Hexanal-DNPH Heptanal-DNPH Octanal-DNPH Nonanal-DNPH Decanal-DNPH Cyclohexanone-DNPH Crotonaldehyde-DNPH	1 mL

EPA 600 Methods

EPA Method 615

Code	Product	Unit
U-PPS-171	4,4'-Dibromooctafluorobiphenyl 250 µg/mL in Acetone	4 x 1 mL

EPA Method 631

Code	Product	Unit
U-PST-1285M100A01	Carbendazim 100 µg/mL in Methanol	1 mL

PCB congener mixtures for US EPA method 1668A & B

Code	Product	Unit

Code	Product	Unit
U-RPCM-1668A	Native PCB Congener Mixture 1 (Solution Identifier A2) - 83 analytes Solvent: Isooctane (2,2,4-trimethylpentane)	1 mL

3-Chlorobiphenyl	(BZ # 2)	2.5	µg/mL
2,3'-Dichlorobiphenyl	(BZ # 6)	2.5	µg/mL
2,4'-Dichlorobiphenyl	(BZ # 8)	2.5	µg/mL
2,5-Dichlorobiphenyl	(BZ # 9)	2.5	µg/mL
2,6-Dichlorobiphenyl	(BZ # 10)	2.5	µg/mL
3,3'-Dichlorobiphenyl	(BZ # 11)	2.5	µg/mL
3,5-Dichlorobiphenyl	(BZ # 14)	2.5	µg/mL
2,3',5-Trichlorobiphenyl	(BZ # 26)	2.5	µg/mL
2,3',6-Trichlorobiphenyl	(BZ # 27)	2.5	µg/mL
2,4,6-Trichlorobiphenyl	(BZ # 30)	2.5	µg/mL
2,4',5-Trichlorobiphenyl	(BZ # 31)	2.5	µg/mL
2,4',6-Trichlorobiphenyl	(BZ # 32)	2.5	µg/mL
2',3,4-Trichlorobiphenyl	(BZ # 33)	2.5	µg/mL
2',3,5-Trichlorobiphenyl	(BZ # 34)	2.5	µg/mL
3,3',4-Trichlorobiphenyl	(BZ # 35)	2.5	µg/mL
3,3',5-Trichlorobiphenyl	(BZ # 36)	2.5	µg/mL
3,4,5-Trichlorobiphenyl	(BZ # 38)	2.5	µg/mL
2,2',3,4-Tetrachlorobiphenyl	(BZ # 41)	5	µg/mL
2,2',3,6-Tetrachlorobiphenyl	(BZ # 45)	5	µg/mL
2,2',4,5'-Tetrachlorobiphenyl	(BZ # 49)	5	µg/mL
2,2',4,6-Tetrachlorobiphenyl	(BZ # 50)	5	µg/mL
2,2',5,5'-Tetrachlorobiphenyl	(BZ # 52)	5	µg/mL
2,3,3',5-Tetrachlorobiphenyl	(BZ # 57)	5	µg/mL
2,3,4',5-Tetrachlorobiphenyl	(BZ # 63)	5	µg/mL
2,3',4,4'-Tetrachlorobiphenyl	(BZ # 66)	5	µg/mL
2,3',5,5'-Tetrachlorobiphenyl	(BZ # 72)	5	µg/mL
2,4,4',6-Tetrachlorobiphenyl	(BZ # 75)	5	µg/mL
3,3',4,5-Tetrachlorobiphenyl	(BZ # 78)	5	µg/mL
3,3',4,5'-Tetrachlorobiphenyl	(BZ # 79)	5	µg/mL
3,4,4',5-Tetrachlorobiphenyl	(BZ # 81)	5	µg/mL
2,2',3,3',4-Pentachlorobiphenyl	(BZ # 82)	5	µg/mL
2,2',3,3',5-Pentachlorobiphenyl	(BZ # 83)	5	µg/mL
2,2',3,4,4'-Pentachlorobiphenyl	(BZ # 85)	5	µg/mL
2,2',3,4,5'-Pentachlorobiphenyl	(BZ # 87)	5	µg/mL
2,2',3,4,6-Pentachlorobiphenyl	(BZ # 88)	5	µg/mL
2,2',3,4,6'-Pentachlorobiphenyl	(BZ # 89)	5	µg/mL
2,2',3,5,5'-Pentachlorobiphenyl	(BZ # 92)	5	µg/mL
2,2',3,5',6-Pentachlorobiphenyl	(BZ # 95)	5	µg/mL
2,2',3,6,6'-Pentachlorobiphenyl	(BZ # 96)	5	µg/mL
2,2',4,5',6-Pentachlorobiphenyl	(BZ # 103)	5	µg/mL
2,3,3',4,4'-Pentachlorobiphenyl	(BZ # 105)	5	µg/mL
2,3,3',4,5-Pentachlorobiphenyl	(BZ # 106)	5	µg/mL
2,3,3',5',6-Pentachlorobiphenyl	(BZ # 113)	5	µg/mL
2,3',4,4',6-Pentachlorobiphenyl	(BZ # 119)	5	µg/mL
2,3',4,5,5'-Pentachlorobiphenyl	(BZ # 120)	5	µg/mL
2',3,3',4,5-Pentachlorobiphenyl	(BZ # 122)	5	µg/mL
2',3,4,5,5'-Pentachlorobiphenyl	(BZ # 124)	5	µg/mL
3,3',4,5,5'-Pentachlorobiphenyl	(BZ # 127)	5	µg/mL
2,2',3,3',4,5-Hexachlorobiphenyl	(BZ # 129)	5	µg/mL
2,2',3,3',4,5'-Hexachlorobiphenyl	(BZ # 130)	5	µg/mL
2,2',3,3',5,5'-Hexachlorobiphenyl	(BZ # 133)	5	µg/mL
2,2',3,3',6,6'-Hexachlorobiphenyl	(BZ # 136)	5	µg/mL
2,2',3,4,5,6-Hexachlorobiphenyl	(BZ # 142)	5	µg/mL
2,2',3,4,5,6'-Hexachlorobiphenyl	(BZ # 143)	5	µg/mL
2,2',3,4,5',6-Hexachlorobiphenyl	(BZ # 144)	5	µg/mL
2,2',3,4',5,6'-Hexachlorobiphenyl	(BZ # 148)	5	µg/mL
2,2',3,5,5',6-Hexachlorobiphenyl	(BZ # 151)	5	µg/mL
2,2',3,5,6,6'-Hexachlorobiphenyl	(BZ # 152)	5	µg/mL
2,2',4,4',5,5'-Hexachlorobiphenyl	(BZ # 153)	5	µg/mL
2,3,3',4,4',5-Hexachlorobiphenyl	(BZ # 156)	5	µg/mL
2,3,3',4,5,5'-Hexachlorobiphenyl	(BZ # 159)	5	µg/mL
2,3,3',4,5',6-Hexachlorobiphenyl	(BZ # 161)	5	µg/mL
2,3,4,4',5,6-Hexachlorobiphenyl	(BZ # 166)	5	µg/mL
2,3',4,4',5,5'-Hexachlorobiphenyl	(BZ # 167)	5	µg/mL
2,2',3,3',4,4',5-Heptachlorobiphenyl	(BZ # 170)	5	µg/mL
2,2',3,3',4,4',6-Heptachlorobiphenyl	(BZ # 171)	5	µg/mL
2,2',3,3',4,5,5'-Heptachlorobiphenyl	(BZ # 172)	5	µg/mL
2,2',3,3',4,5',6-Heptachlorobiphenyl	(BZ # 175)	5	µg/mL
2,2',3,3',4,6,6'-Heptachlorobiphenyl	(BZ # 176)	5	µg/mL
2,2',3,3',4',5,6-Heptachlorobiphenyl	(BZ # 177)	5	µg/mL
2,2',3,3',5,5',6-Heptachlorobiphenyl	(BZ # 178)	5	µg/mL
2,2',3,3',5,6,6'-Heptachlorobiphenyl	(BZ # 179)	5	µg/mL
2,2',3,4,4',5',6-Heptachlorobiphenyl	(BZ # 183)	5	µg/mL
2,3,3',4,4',5,6-Heptachlorobiphenyl	(BZ # 190)	5	µg/mL
2,3,3',4,4',5',6-Heptachlorobiphenyl	(BZ # 191)	5	µg/mL
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	(BZ # 194)	7.5	µg/mL
2,2',3,3',4,4',5,6-Octachlorobiphenyl	(BZ # 195)	7.5	µg/mL
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	(BZ # 196)	7.5	µg/mL
2,2',3,3',4,5,5',6-Octachlorobiphenyl	(BZ # 198)	7.5	µg/mL
2,2',3,3',4,5,6,6'-Octachlorobiphenyl	(BZ # 199)	7.5	µg/mL
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	(BZ # 200)	7.5	µg/mL
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	(BZ # 204)	7.5	µg/mL
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	(BZ # 207)	7.5	µg/mL

Code	Product	Unit
U-RPCM-1668B	Native PCB Congener Mixture 2 (Solution Identifier B2) - 54 analytes Solvent: Isooctane (2,2,4-trimethylpentane)	1 mL
	2,3-Dichlorobiphenyl (BZ # 5) 2.5 µg/mL 2,4-Dichlorobiphenyl (BZ # 7) 2.5 µg/mL 3,4-Dichlorobiphenyl (BZ # 12) 2.5 µg/mL 2,2',5-Trichlorobiphenyl (BZ # 18) 2.5 µg/mL 2,3,4'-Trichlorobiphenyl (BZ # 22) 2.5 µg/mL 2,3,5-Trichlorobiphenyl (BZ # 23) 2.5 µg/mL 2,3,6-Trichlorobiphenyl (BZ # 24) 2.5 µg/mL 2,4,4'-Trichlorobiphenyl (BZ # 28) 2.5 µg/mL 3,4',5-Trichlorobiphenyl (BZ # 39) 2.5 µg/mL 2,2',4,5-Tetrachlorobiphenyl (BZ # 48) 5 µg/mL 2,2',4,6'-Tetrachlorobiphenyl (BZ # 51) 5 µg/mL 2,2',5,6'-Tetrachlorobiphenyl (BZ # 53) 5 µg/mL 2,3,3',4-Tetrachlorobiphenyl (BZ # 55) 5 µg/mL 2,3,3',5'-Tetrachlorobiphenyl (BZ # 58) 5 µg/mL 2,3,4,4'-Tetrachlorobiphenyl (BZ # 60) 5 µg/mL 2,3,4,5-Tetrachlorobiphenyl (BZ # 61) 5 µg/mL 2,3,4,6-Tetrachlorobiphenyl (BZ # 62) 5 µg/mL 2,3',4,5'-Tetrachlorobiphenyl (BZ # 68) 5 µg/mL 2,3',4',6-Tetrachlorobiphenyl (BZ # 71) 5 µg/mL 2,3',5',6-Tetrachlorobiphenyl (BZ # 73) 5 µg/mL 2,2',3,4',5-Pentachlorobiphenyl (BZ # 90) 5 µg/mL 2,2',3,4',6-Pentachlorobiphenyl (BZ # 91) 5 µg/mL 2,2',3,5,6'-Pentachlorobiphenyl (BZ # 94) 5 µg/mL 2,2',4,4',5-Pentachlorobiphenyl (BZ # 99) 5 µg/mL 2,2',4,4',6-Pentachlorobiphenyl (BZ # 100) 5 µg/mL 2,3,3',4,5'-Pentachlorobiphenyl (BZ # 108) 5 µg/mL 2,3,3',4,6-Pentachlorobiphenyl (BZ # 109) 5 µg/mL 2,3,3',5,5'-Pentachlorobiphenyl (BZ # 111) 5 µg/mL 2,3,4,4',5-Pentachlorobiphenyl (BZ # 114) 5 µg/mL 2,3,4',5,6-Pentachlorobiphenyl (BZ # 117) 5 µg/mL 2,3',4,4',5-Pentachlorobiphenyl (BZ # 118) 5 µg/mL 2,3',4,5',6-Pentachlorobiphenyl (BZ # 121) 5 µg/mL 2,2',3,3',4,4'-Hexachlorobiphenyl (BZ # 128) 5 µg/mL 2,2',3,3',4,6'-Hexachlorobiphenyl (BZ # 132) 5 µg/mL 2,2',3,3',5,6'-Hexachlorobiphenyl (BZ # 135) 5 µg/mL 2,2',3,4,4',5-Hexachlorobiphenyl (BZ # 137) 5 µg/mL 2,2',3,4,4',6-Hexachlorobiphenyl (BZ # 139) 5 µg/mL 2,2',3,4,6,6'-Hexachlorobiphenyl (BZ # 145) 5 µg/mL 2,2',3,4',5',6-Hexachlorobiphenyl (BZ # 149) 5 µg/mL 2,2',3,4',6,6'-Hexachlorobiphenyl (BZ # 150) 5 µg/mL 2,3,3',4,4',5'-Hexachlorobiphenyl (BZ # 157) 5 µg/mL 2,3,3',4,5,6-Hexachlorobiphenyl (BZ # 160) 5 µg/mL 2,3,3',4',5,5'-Hexachlorobiphenyl (BZ # 162) 5 µg/mL 2,3,3',5,5',6-Hexachlorobiphenyl (BZ # 165) 5 µg/mL 2,3',4,4',5',6-Hexachlorobiphenyl (BZ # 168) 5 µg/mL 2,2',3,4,4',5,6-Heptachlorobiphenyl (BZ # 181) 5 µg/mL 2,2',3,4,4',6,6'-Heptachlorobiphenyl (BZ # 184) 5 µg/mL 2,2',3,4,5,5',6-Heptachlorobiphenyl (BZ # 185) 5 µg/mL 2,2',3,4,5,6,6'-Heptachlorobiphenyl (BZ # 186) 5 µg/mL 2,2',3,4',5,5',6-Heptachlorobiphenyl (BZ # 187) 5 µg/mL 2,3,3',4,5,5',6-Heptachlorobiphenyl (BZ # 192) 5 µg/mL 2,2',3,3',4,4',6,6'-Octachlorobiphenyl (BZ # 197) 7.5 µg/mL 2,2',3,3',4,5,5',6'-Octachlorobiphenyl (BZ # 201) 7.5 µg/mL 2,2',3,4,4',5,5',6-Octachlorobiphenyl (BZ # 203) 7.5 µg/mL	
U-RPCM-1668C	Native PCB Congener Mixture 3 (Solution Identifier C2) - 29 analytes Solvent: Isooctane (2,2,4-trimethylpentane)	1 mL
	3,4'-Dichlorobiphenyl (BZ # 13) 2.5 µg/mL 2,2',4-Trichlorobiphenyl (BZ # 17) 2.5 µg/mL 2,3,3'-Trichlorobiphenyl (BZ # 20) 2.5 µg/mL 2,4,5-Trichlorobiphenyl (BZ # 29) 2.5 µg/mL 2,2',3,3'-Tetrachlorobiphenyl (BZ # 40) 5 µg/mL 2,2',3,6'-Tetrachlorobiphenyl (BZ # 46) 5 µg/mL 2,3,3',6-Tetrachlorobiphenyl (BZ # 59) 5 µg/mL 2,3,5,6-Tetrachlorobiphenyl (BZ # 65) 5 µg/mL 2,3',4,5-Tetrachlorobiphenyl (BZ # 67) 5 µg/mL 2',3,4,5-Tetrachlorobiphenyl (BZ # 76) 5 µg/mL 3,3',5,5'-Tetrachlorobiphenyl (BZ # 80) 5 µg/mL 2,2',3,3',6-Pentachlorobiphenyl (BZ # 84) 5 µg/mL 2,2',3,4,5-Pentachlorobiphenyl (BZ # 86) 5 µg/mL 2,2',3,5,6-Pentachlorobiphenyl (BZ # 93) 5 µg/mL 2,2',4,5,5'-Pentachlorobiphenyl (BZ # 101) 5 µg/mL 2,3,3',4',5-Pentachlorobiphenyl (BZ # 107) 5 µg/mL 2,3,3',5,6-Pentachlorobiphenyl (BZ # 112) 5 µg/mL 2,3,4,5,6-Pentachlorobiphenyl (BZ # 116) 5 µg/mL 2,2',3,4,4',6'-Hexachlorobiphenyl (BZ # 140) 5 µg/mL 2,2',3,4,5,5'-Hexachlorobiphenyl (BZ # 141) 5 µg/mL 2,2',3,4',5,5'-Hexachlorobiphenyl (BZ # 146) 5 µg/mL 2,2',3,4',5,6-Hexachlorobiphenyl (BZ # 147) 5 µg/mL 2,2',4,4',5,6'-Hexachlorobiphenyl (BZ # 154) 5 µg/mL 2,3,3',4,4',6-Hexachlorobiphenyl (BZ # 158) 5 µg/mL 2,3,3',4',5',6-Hexachlorobiphenyl (BZ # 164) 5 µg/mL 2,2',3,3',4,5,6-Heptachlorobiphenyl (BZ # 173) 5 µg/mL 2,2',3,3',4,5,6'-Heptachlorobiphenyl (BZ # 174) 5 µg/mL 2,2',3,4,4',5,6'-Heptachlorobiphenyl (BZ # 182) 5 µg/mL 2,3,3',4',5,5',6-Heptachlorobiphenyl (BZ # 193) 5 µg/mL	

Code	Product	Unit
U-RPCM-1668D	Native PCB Congener Mixture 4 (Solution Identifier D2) - 15 analytes Solvent: Isooctane (2,2,4-trimethylpentane) 2,3,4-Trichlorobiphenyl (BZ # 21) 2.5 µg/mL 2,3',4-Trichlorobiphenyl (BZ # 25) 2.5 µg/mL 2,2',3,4'-Tetrachlorobiphenyl (BZ # 42) 5 µg/mL 2,2',4,4'-Tetrachlorobiphenyl (BZ # 47) 5 µg/mL 2,3,4',6-Tetrachlorobiphenyl (BZ # 64) 5 µg/mL 2,3',4,6-Tetrachlorobiphenyl (BZ # 69) 5 µg/mL 2,3',4',5-Tetrachlorobiphenyl (BZ # 70) 5 µg/mL 2,2',3',4,5-Pentachlorobiphenyl (BZ # 97) 5 µg/mL 2,2',4,5,6'-Pentachlorobiphenyl (BZ # 102) 5 µg/mL 2,3,4,4',6-Pentachlorobiphenyl (BZ # 115) 5 µg/mL 2',3,4,4',5-Pentachlorobiphenyl (BZ # 123) 5 µg/mL 2,2',3,3',4,6-Hexachlorobiphenyl (BZ # 131) 5 µg/mL 2,2',3,3',5,6-Hexachlorobiphenyl (BZ # 134) 5 µg/mL 2,3,3',4',5,6-Hexachlorobiphenyl (BZ # 163) 5 µg/mL 2,2',3,4,4',5,5'-Heptachlorobiphenyl (BZ # 180) 5 µg/mL	1 mL
U-RPCM-1668E	Native PCB Congener Mixture 5 (Solution Identifier E2) - 33 analytes Solvent: Isooctane (2,2,4-trimethylpentane) 2-Chlorobiphenyl (BZ # 1) 2.5 µg/mL 4-Chlorobiphenyl (BZ # 3) 2.5 µg/mL 2,2'-Dichlorobiphenyl (BZ # 4) 2.5 µg/mL 4,4'-Dichlorobiphenyl (BZ # 15) 2.5 µg/mL 2,2',3-Trichlorobiphenyl (BZ # 16) 2.5 µg/mL 2,2',6-Trichlorobiphenyl (BZ # 19) 2.5 µg/mL 3,4,4'-Trichlorobiphenyl (BZ # 37) 2.5 µg/mL 2,2',3,5-Tetrachlorobiphenyl (BZ # 43) 5 µg/mL 2,2',3,5'-Tetrachlorobiphenyl (BZ # 44) 5 µg/mL 2,2',6,6'-Tetrachlorobiphenyl (BZ # 54) 5 µg/mL 2,3,3',4'-Tetrachlorobiphenyl (BZ # 56) 5 µg/mL 2,4,4',5-Tetrachlorobiphenyl (BZ # 74) 5 µg/mL 3,3',4,4'-Tetrachlorobiphenyl (BZ # 77) 5 µg/mL 2,2',3',4,6-Pentachlorobiphenyl (BZ # 98) 5 µg/mL 2,2',4,6,6'-Pentachlorobiphenyl (BZ # 104) 5 µg/mL 2,3,3',4',6-Pentachlorobiphenyl (BZ # 110) 5 µg/mL 2',3,4,5,6'-Pentachlorobiphenyl (BZ # 125) 5 µg/mL 3,3',4,4',5-Pentachlorobiphenyl (BZ # 126) 5 µg/mL 2,2',3,4,4',5'-Hexachlorobiphenyl (BZ # 138) 5 µg/mL 2,2',4,4',6,6'-Hexachlorobiphenyl (BZ # 155) 5 µg/mL 3,3',4,4',5,5'-Hexachlorobiphenyl (BZ # 169) 5 µg/mL 2,2',3,4',5,6,6'-Heptachlorobiphenyl (BZ # 188) 5 µg/mL 2,3,3',4,4',5,5'-Heptachlorobiphenyl (BZ # 189) 5 µg/mL 2,2',3,3',5,5',6,6'-Octachlorobiphenyl (BZ # 202) 7.5 µg/mL 2,3,3',4,4',5,5',6-Octachlorobiphenyl (BZ # 205) 7.5 µg/mL 2,2',3,3',4,4',5,5',6-Dchlorobiphenyl (BZ # 206) 7.5 µg/mL 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (BZ # 208) 7.5 µg/mL Decachlorobiphenyl (BZ # 209) 7.5 µg/mL	1 mL
U-RPCM-1668F	Native Toxics/LOC Stock Solution Solvent: Isooctane (2,2,4-trimethylpentane) 2-Chlorobiphenyl (BZ # 1) 20 µg/mL 4-Chlorobiphenyl (BZ # 3) 20 µg/mL 2,2'-Dichlorobiphenyl (BZ # 4) 20 µg/mL 4,4'-Dichlorobiphenyl (BZ # 15) 20 µg/mL 2,2',6-Trichlorobiphenyl (BZ # 19) 20 µg/mL 2,3,5-Trichlorobiphenyl (BZ # 23) 20 µg/mL 2',3,5-Trichlorobiphenyl (BZ # 34) 20 µg/mL 3,4,4'-Trichlorobiphenyl (BZ # 37) 20 µg/mL 2,2',6,6'-Tetrachlorobiphenyl (BZ # 54) 20 µg/mL 3,3',4,4'-Tetrachlorobiphenyl (BZ # 77) 20 µg/mL 3,4,4',5-Tetrachlorobiphenyl (BZ # 81) 20 µg/mL 2,2',4,6,6'-Pentachlorobiphenyl (BZ # 104) 20 µg/mL 2,3,3',4,4'-Pentachlorobiphenyl (BZ # 105) 20 µg/mL 2,3,4,4',5-Pentachlorobiphenyl (BZ # 114) 20 µg/mL 2,3',4,4',5-Pentachlorobiphenyl (BZ # 118) 20 µg/mL 2',3,4,4',5-Pentachlorobiphenyl (BZ # 123) 20 µg/mL 3,3',4,4',5-Pentachlorobiphenyl (BZ # 126) 20 µg/mL 2,2',4,4',6,6'-Hexachlorobiphenyl (BZ # 155) 20 µg/mL 2,3,3',4,4',5-Hexachlorobiphenyl (BZ # 156) 20 µg/mL 2,3,3',4,4',5'-Hexachlorobiphenyl (BZ # 157) 20 µg/mL 2,3',4,4',5,5'-Hexachlorobiphenyl (BZ # 167) 20 µg/mL 3,3',4,4',5,5'-Hexachlorobiphenyl (BZ # 169) 20 µg/mL 2,2',3,3',4,4',5-Heptachlorobiphenyl (BZ # 170) 20 µg/mL 2,2',3,4,4',5,5'-Heptachlorobiphenyl (BZ # 180) 20 µg/mL 2,2',3,4,4',5,6'-Heptachlorobiphenyl (BZ # 182) 20 µg/mL 2,2',3,4',5,5',6-Heptachlorobiphenyl (BZ # 187) 20 µg/mL 2,2',3,4',5,6,6'-Heptachlorobiphenyl (BZ # 188) 20 µg/mL 2,3,3',4,4',5,5'-Heptachlorobiphenyl (BZ # 189) 20 µg/mL 2,2',3,3',5,5',6,6'-Octachlorobiphenyl (BZ # 202) 20 µg/mL 2,3,3',4,4',5,5',6-Octachlorobiphenyl (BZ # 205) 20 µg/mL 2,2',3,3',4,4',5,5',6-nonachlorobiphenyl (BZ # 206) 20 µg/mL 2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl (BZ # 208) 20 µg/mL Decachlorobiphenyl (BZ # 209) 20 µg/mL	1 mL

Code	Product	Unit
U-RPCM-1668K	Method 1668A & B Kit Each kit consists of one unit each of the following standards: U-RPCM-1668A.....Native PCB Congener Mixture 1 (Solution Identifier A2) - 83 analytes U-RPCM-1668B.....Native PCB Congener Mixture 2 (Solution Identifier B2) - 54 analytes U-RPCM-1668C .....Native PCB Congener Mixture 3 (Solution Identifier C2) - 29 analytes U-RPCM-1668D .....Native PCB Congener Mixture 4 (Solution Identifier D2) - 15 analytes U-RPCM-1668E.....Native PCB Congener Mixture 5 (Solution Identifier E2) - 28 analytes	1 mL

EPA 8000 Methods

EPA Method 8141B

Code	Product	Unit
U-SPK-8141B	EPA Method 8141B Kit U-SPM-824-1 (1 × 1 mL) Organophosphorous Pesticides Mixture (200 µg/mL in Hexane/Acetone(1:1) U-SPM-874-1 (1 × 1 mL) Triazine Herbicides Mixture U-SPM-834-1 (1 × 1 mL) Organophosphorous Pesticides Mixture (200 µg/mL in Hexane/Acetone (1:1) U-SPM-884-1 (1 × 1 mL) Carbamates and Related Compounds Mixture U-SPM-844A-1 (1 × 1 mL) Organophosphorus Pesticides Mixture (200 µg/mL in Hexane/Acetone (1:1 U-ISM-570-1 (1 × 1 mL) Surrogate Standard Mixture (1000 µg/mL in Acetone) U-SPM-854-1 (1 × 1 mL) Organophosphorus Pesticides Mixture (200 µg/mL in Hexane/Acetone (1:1) U-PPS-350-1 (1 × 1 mL) 1-Bromo-2-nitrobenzene (1000 µg/mL in Acetone) U-SPM-864-1 (1 × 1 mL) Industrial Chemicals Mixture	kit

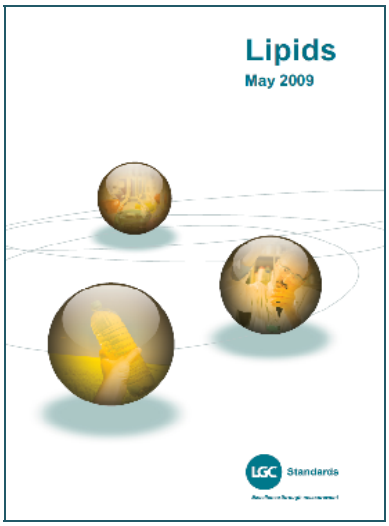
Biolipids

Biolipids

LGC Standards supplies a wide range of Biolipids, many of which are contained in our 2009 Lipids catalogue. For an up to date range of materials visit the **biolipid pages** on our website **www.lgcstandards.com**

Products include:

Fatty acids and derivatives
Oxylipins
Oxygenated fatty acids - Oxilipin related
Eicosanoids
Acyl-L-Carnitine Chlorides Native/D labelled
Coenzyme A & Co A esters
Methyl branched fatty acids and methyl esters
- Native/D-labelled
Hydroxy fatty acids/Methyl esters
Glycerides - Mono-/Tri-/Tri-synthetic
Deuterium labelled lipids
^{13}C-Labelled lipids
Fatty alcohols
Cholesterol & Cholesterylesters
Wax esters
Natural phospholipids
Semisynthetic phospholipids



Certified high purity standards

Stoichiometry

Code	Product	Unit
NMIJ CRM 7405-A	Seaweed - Trace Elements and Arsenic Compound (Hijiki) Certified values (g/kg) Ca ..... 15.2 ± 0.3 g/kg Na ..... 16.2 ± 0.2 g/kg K ..... 47.5 ± 0.7 g/kg Mg ..... 6.79 ± 0.10 g/kg P ..... 1.01 ± 0.03 g/kg Sr ..... 1.47 ± 0.04 g/kg Certified values (mg/kg) Al ..... 147 ± 7 mg/kg As ..... 35.8 ± 0.9 mg/kg Ba ..... 14.6 ± 0.3 mg/kg Cd ..... 0.79 ± 0.02 mg/kg Co ..... 1.07 ± 0.06 mg/kg Cr ..... 3.4 ± 0.1 mg/kg Cu ..... 1.55 ± 0.07 mg/kg Fe ..... 311 ± 11 mg/kg Mn ..... 14.1 ± 0.7 mg/kg Ni ..... 2.2 ± 0.1 mg/kg Pb ..... 0.43 ± 0.03 mg/kg Zn ..... 13.4 ± 0.5 mg/kg Certified arsenic compounds (mg/kg) As(V) ..... 10.1 ± 0.5 mg/kg	20 g
NMIJ CRM 7901-A	Arsenobetaine solution Certified value Arsenobetaine ..... 24.40 ± 0.62 mg/kg	10 mL
NMIJ CRM 7912-A	Arsenate [As(V)] Solution Certified value As(V) ..... 99.53 ± 1.67 mg/kg	50 mL

Code	Product	Unit
NMIJ CRM 7913-A	Dimethylarsinic Acid Solution Certified value Dimethylarsinic acid.....25.11 ± 0.70 mg/kg	10 mL

Organo-metallic compounds

Code	Product	Unit
NMIJ CRM 7912-A	Arsenate [As(V)] Solution Certified value As(V) ..... 99.53 ± 1.67 mg/kg	50 mL
NMIJ CRM 7913-A	Dimethylarsinic Acid Solution Certified value Dimethylarsinic acid.....25.11 ± 0.70 mg/kg	10 mL

Isotopes

Code	Product	Unit
ERM-AE120	Boric acid in water - Isotopic composition Certified value $\delta^{11}B_{NIST\ 951}$ in ‰.....-20.2 ± 0.6	20 mL
ERM-AE121	Boric acid in water - Isotopic composition Certified value $\delta^{11}B_{NIST\ 951}$ in ‰.....-19.9 ± 0.6	20 mL
ERM-AE122	Boric acid in water - Isotopic composition Certified value $\delta^{11}B_{NIST\ 951}$ in ‰.....-39.7 ± 0.6	20 mL

Inorganic standards

Single-element standards

Code	Product	Unit
VHG-LALH-100	Aluminum - Al @ 10µg/mL in 5% HCl	100 mL
VHG-LALN-100	Aluminum - Al @ 10µg/mL in 5% HNO_3	100 mL
VHG-PALH-100	Aluminum - Al @ 1000µg/mL in 5% HCl	100 mL
VHG-PALH-500	Aluminum - Al @ 1000µg/mL in 5% HCl	500 mL
VHG-PALN-100	Aluminum - Al @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PALN-500	Aluminum - Al @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TALH-100	Aluminum - Al @ 10000µg/mL in 5% HCl	100 mL
VHG-TALH-500	Aluminum - Al @ 10000µg/mL in 5% HCl	500 mL
VHG-TALN-100	Aluminum - Al @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TALN-500	Aluminum - Al @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PCAN-100	Calcium - Ca @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PCAN-500	Calcium - Ca @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TCAN-100	Calcium - Ca @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TCAN-500	Calcium - Ca @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PCW-100	Carbon - C @ 1000µg/mL in H2O	100 mL
VHG-PCW-500	Carbon - C @ 1000µg/mL in H_2O	500 mL
VHG-TCW-100	Carbon - C @ 10000µg/mL in H_2O	100 mL
VHG-TCW-500	Carbon - C @ 10000µg/mL in H_2O	500 mL
VHG-PCEN-100	Cerium - Ce @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PCEN-500	Cerium - Ce @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TCEN-100	Cerium - Ce @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TCEN-500	Cerium - Ce @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LCRN-100	Chromium - Cr @ 10µg/mL in 2% HNO_3	100 mL
VHG-PCRH-100	Chromium - Cr @ 1000µg/mL in 5% HCl	100 mL
VHG-PCRH-500	Chromium - Cr @ 1000µg/mL in 5% HCl	500 mL
VHG-PCRN-100	Chromium - Cr @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PCRN-500	Chromium - Cr @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TCRH-100	Chromium - Cr @ 10000µg/mL in 5% HCl	100 mL
VHG-TCRH-500	Chromium - Cr @ 10000µg/mL in 5% HCl	500 mL
VHG-TCRN-100	Chromium - Cr @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TCRN-500	Chromium - Cr @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LCON-100	Cobalt - Co @ 10µg/mL in 2% HNO_3	100 mL
VHG-PCON-100	Cobalt - Co @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PCON-500	Cobalt - Co @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TCON-100	Cobalt - Co 10000µg/mL in 5% HNO_3	100 mL
VHG-TCON-500	Cobalt - Co @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LCUN-100	Copper - Cu @ 10µg/mL in 2% HNO_3	100 mL
VHG-PCUN-100	Copper - Cu @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PCUN-500	Copper - Cu @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TCUN-100	Copper - Cu @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TCUN-500	Copper - Cu @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PDYN-100	Dysprosium - Dy @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PDYN-500	Dysprosium - Dy @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TDYN-100	Dysprosium - Dy @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TDYN-500	Dysprosium - Dy @ 10000µg/mL in 5% HNO_3	500 mL

Single-element standards

Code	Product	Unit
VHG-PERN-100	Erbium - Er @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PERN-500	Erbium - Er @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TERN-100	Erbium - Er @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TERN-500	Erbium - Er @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PEUN-100	Europium - Eu @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PEUN-500	Europium - Eu @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TEUN-100	Europium - Eu @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TEUN-500	Europium - Eu @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PGDN-100	Gadolinium - Gd @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PGDN-500	Gadolinium - Gd @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TGDN-100	Gadolinium - Gd @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TGDN-500	Gadolinium - Gd @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LSBH-100	Antimony - Sb @10ug/ml in 20% HCl	100 mL
VHG-LSBWTN-100	Antimony - Sb @10ug/mL in 1% HNO_3, tr. Tart. Acid	100 mL
VHG-PSBH-100	Antimony - Sb @ 1000µg/mL in 20% HCl	100 mL
VHG-PSBH-500	Antimony - Sb @ 1000µg/mL in 20% HCl	500 mL
VHG-PSBWTN-100	Antimony - Sb @ 1000µg/mL in 1% HNO_3, tr. Tart. Acid	100 mL
VHG-PSBWTN-500	Antimony - Sb @ 1000µg/mL in 1% HNO_3, tr. Tart. Acid	500 mL
VHG-TSBH-100	Antimony - Sb @ 10000µg/mL in 30% HCl	100 mL
VHG-TSBH-500	Antimony - Sb @ 10000µg/mL in 20% HCl	500 mL
VHG-TSBWTN-100	Antimony - Sb @ 10000µg/mL in 1% HNO_3, 1% Tart. Acid	100 mL
VHG-TSBWTN-500	Antimony - Sb @ 10000µg/mL in 1% HNO_3, 1% Tart. Acid	500 mL
VHG-PGANH-100	Gallium - Ga @ 1000µg/mL in 5% HNO_3, 0.5% HCl	100 mL
VHG-PGANH-500	Gallium - Ga @ 1000µg/mL in 5% HNO_3, 0.5% HCl	500 mL
VHG-TGANH-100	Gallium - Ga @ 10000µg/mL in 5% HNO_3, 0.5% HCl	100 mL
VHG-TGANH-500	Gallium - Ga @ 10000µg/mL in 5% HNO_3, 0.5% HCl	500 mL
VHG-PGENF-100	Germanium -Ge @ 1000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-PGENF-500	Germanium -Ge @ 1000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-PGEW-100	Germanium - Ge @ 1000µg/mL in H_2O, tr. F^-	100 mL
VHG-PGEW-500	Germanium - Ge @ 1000µg/mL in H_2O, tr. F^-	500 mL
VHG-TGENF-100	Germanium -Ge @ 10000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-TGENF-500	Germanium -Ge @ 10000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-PAUH-100	Gold - Au @ 1000µg/mL in 20% HCl	100 mL
VHG-PAUH-500	Gold - Au @ 1000µg/mL in 20% HCl	500 mL
VHG-TAUH-100	Gold - Au @ 10000µg/mL in 20% HCl	100 mL
VHG-TAUH-500	Gold - Au @ 10000µg/mL in 20% HCl	500 mL
VHG-PHFH-100	Hafnium - Hf @ 1000µg/mL in 5% HCl	100 mL
VHG-PHFH-500	Hafnium - Hf @ 1000µg/mL in 5% HCl	500 mL
VHG-THFH-100	Hafnium - Hf @ 10000µg/mL in 5% HCl	100 mL
VHG-THFH-500	Hafnium - Hf @ 10000µg/mL in 5% HCl	500 mL
VHG-PHON-100	Holmium - Ho @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PHON-500	Holmium - Ho @ 1000µg/mL in 5% HNO_3	500 mL
VHG-THON-100	Holmium - Ho @ 10000µg/mL in 5% HNO_3	100 mL
VHG-THON-500	Holmium - Ho @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LINN-100	Indium - In @ 10µg/mL in 2% HNO_3	100 mL
VHG-PINN-100	Indium - In @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PINN-500	Indium - In @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TINN-100	Indium - In @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TINN-500	Indium - In @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LIRH-100	Iridium - Ir @ 10µg/mL in 2% HCl	100 mL
VHG-PIRH-100	Iridium - Ir @ 1000µg/mL in 20% HCl	100 mL

Code	Product	Unit
VHG-PIRH-500	Iridium - Ir @ 1000µg/mL in 20% HCl	500 mL
VHG-TIRH-100	Iridium - Ir @ 10000µg/mL in 20% HCl	100 mL
VHG-TIRH-500	Iridium - Ir @ 10000µg/mL in 20% HCl	500 mL
VHG-PFEN-100	Iron - Fe @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PFEN-500	Iron - Fe @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TFEN-100	Iron - Fe @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TFEN-500	Iron - Fe @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PLAN-100	Lanthanum - La @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PLAN-500	Lanthanum - La @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TLAN-100	Lanthanum - La @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TLAN-500	Lanthanum - La @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LPBN-100	Lead - Pb @10ug/mL in 2% HNO_3	100 mL
VHG-PPBN-100	Lead - Pb @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PPBN-500	Lead - Pb @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TPBN-100	Lead - Pb @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TPBN-500	Lead - Pb @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LASN-100	Arsenic - As @ 10µg/mL in 2% HNO_3	100 mL
VHG-PASN-100	Arsenic - As @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PASN-500	Arsenic - As @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TASN-100	Arsenic - As @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TASN-500	Arsenic - As @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LLIN-100	Lithium - Li @10ug/mL in 2% HNO_3	100 mL
VHG-PLIN-100	Lithium - Li @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PLIN-500	Lithium - Li @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TLIN-100	Lithium - Li @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TLIN-500	Lithium - Li @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LLUN-100	Lutetium - Lu @10ug/mL in 2%HNO_3	100 mL
VHG-PLUN-100	Lutetium - Lu @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PLUN-500	Lutetium - Lu @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TLUN-100	Lutetium - Lu @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TLUN-500	Lutetium - Lu @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PMGN-100	Magnesium - Mg @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PMGN-500	Magnesium - Mg @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TMGN-100	Magnesium - Mg @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TMGN-500	Magnesium - Mg @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LMNN-100	Manganese - Mn @10ug/mL in 2% HNO_3	100 mL
VHG-PMNN-100	Manganese - Mn @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PMNN-500	Manganese - Mn @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TMNN-100	Manganese - Mn @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TMNN-500	Manganese - Mn @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PHGN-100	Mercury - Hg @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PHGN-500	Mercury - Hg @ 1000µg/mL in 5% HNO_3	500 mL
VHG-THGN-100	Mercury - Hg @ 10000µg/mL in 5% HNO_3	100 mL
VHG-THGN-500	Mercury - Hg @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LMONF-100	Molybdenum - Mo in 2% HNO_3, tr. HF, Mo @ 10µg/mL	100 mL
VHG-PMONF-100	Molybdenum - Mo @ 1000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-PMONF-500	Molybdenum - Mo @ 1000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-PMOZ-100	Molybdenum - Mo @ 1000µg/mL in NH4OH	100 mL
VHG-PMOZ-500	Molybdenum - Mo @ 1000µg/mL in NH4OH	500 mL
VHG-TMONF-100	Molybdenum 10000 µg/mL in HNO_3	100 mL
VHG-TMONF-500	Molybdenum - Mo @ 10000µg/mL in 5% HNO_3, tr. HF	500 mL

Single-element standards

Code	Product	Unit
VHG-TMOZ-100	Molybdenum - Mo @ 10000µg/mL in NH_4OH	100 mL
VHG-TMOZ-500	Molybdenum - Mo @ 10000µg/mL in NH_4OH	500 mL
VHG-PNDN-100	Neodymium - Nd @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PNDN-500	Neodymium - Nd @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TNDN-100	Neodymium - Nd @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TNDN-500	Neodymium - Nd @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LNIN-100	Nickel - Ni @10ug/mL in 2% HNO_3	100 mL
VHG-PNIN-100	Nickel - Ni @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PNIN-500	Nickel - Ni @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TNIN-100	Nickel - Ni @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TNIN-500	Nickel - Ni @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PNBF-500	Niobium - Nb @ 1000µg/mL in 2% HF	500 mL
VHG-PNBW-100	Niobium - Nb @ 1000µg/mL in H_2O, tr. F-	100 mL
VHG-PNBW-500	Niobium - Nb @ 1000µg/mL in H_2O, tr. F-	500 mL
VHG-TNBF-100	Niobium - Nb @ 10000µg/mL in 2% HF	100 mL
VHG-TNBF-500	Niobium - Nb @ 10000µg/mL in 2% HF	500 mL
VHG-TNBW-100	Niobium - Nb @ 10000µg/mL in H_2O, tr. F-	100 mL
VHG-TNBW-500	Niobium - Nb @ 10000µg/mL in H_2O, tr. F-	500 mL
VHG-POSH-100	Osmium - Os @ 1000µg/mL in 20% HCl	100 mL
VHG-POSH-500	Osmium - Os @ 1000µg/mL in 20% HCl	500 mL
VHG-PPDH-100	Palladium - Pd @ 1000µg/mL in 20% HCl	100 mL
VHG-PPDH-500	Palladium - Pd @ 1000µg/mL in 20% HCl	500 mL
VHG-PPDN-100	Palladium - Pd @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PPDN-500	Palladium - Pd @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TPDH-100	Palladium - Pd @ 10000µg/mL in 20% HCl	100 mL
VHG-TPDH-500	Palladium - Pd @ 10000µg/mL in 20% HCl	500 mL
VHG-TPDN-100	Palladium - Pd @ 10000µg/mL in 10% HNO_3	100 mL
VHG-TPDN-500	Palladium - Pd @ 10000µg/mL in 10% HNO_3	500 mL
VHG-LBAN-100	Barium - Ba @ 10µg/mL in 2% HNO_3	100 mL
VHG-PBAN-100	Barium - Ba @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PBAN-500	Barium - Ba @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TBAN-100	Barium - Ba @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TBAN-500	Barium - Ba @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LPTH-100	Platinum - Pt @10ug/mL in 5% HCl	100 mL
VHG-PPTH-100	Platinum - Pt @ 1000µg/mL in 20% HCl	100 mL
VHG-PPTH-500	Platinum - Pt @ 1000µg/mL in 20% HCl	500 mL
VHG-TPTH-100	Platinum - Pt @ 10000µg/mL in 20% HCl	100 mL
VHG-TPTH-500	Platinum - Pt @ 10000µg/mL in 20% HCl	500 mL
VHG-PKN-100	Potassium 1000 µg/mL in HNO_3	100 mL
VHG-PKN-500	Potassium - K @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TKN-100	Potassium - K @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TKN-500	Potassium - K @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PPRN-100	Praseodymium - Pr @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PPRN-500	Praseodymium - Pr @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TPRN-100	Praseodymium - Pr @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TPRN-500	Praseodymium - Pr @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PREN-100	Rhenium - Re @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PREN-500	Rhenium - Re @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TREN-100	Rhenium - Re @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TREN-500	Rhenium - Re @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LRHH-100	Rhodium - Rh @10ug/mL in 2% HCl	100 mL

Code	Product	Unit
VHG-PRHH-100	Rhodium - Rh @ 1000µg/mL in 20% HCl	100 mL
VHG-PRHH-500	Rhodium - Rh @ 1000µg/mL in 20% HCl	500 mL
VHG-TRHH-100	Rhodium - Rh @ 10000µg/mL in 20% HCl	100 mL
VHG-TRHH-500	Rhodium - Rh @ 10000µg/mL in 20% HCl	500 mL
VHG-PRBN-100	Rubidium - Rb @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PRBN-500	Rubidium - Rb @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TRBN-100	Rubidium - Rb @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TRBN-500	Rubidium - Rb @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PRUH-100	Ruthenium - Ru @ 1000µg/mL in 20% HCl	100 mL
VHG-PRUH-500	Ruthenium - Ru @ 1000µg/mL in 20% HCl	500 mL
VHG-TRUH-100	Ruthenium - Ru @ 10000µg/mL in 20% HCl	100 mL
VHG-TRUH-500	Ruthenium - Ru @ 10000µg/mL in 20% HCl	500 mL
VHG-PSMN-100	Samarium - Sm @ 1000µg/mL in 5% HNO_3	100 mL
VHG-TSMN-100	Samarium - Sm @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TSMN-500	Samarium - Sm @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LSCN-100	Scandium - Sc @10ug/mL in 2% HNO_3	100 mL
VHG-PSCN-100	Scandium - Sc @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PSCN-500	Scandium - Sc @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TSCN-100	Scandium - Sc @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TSCN-500	Scandium - Sc @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LBEN-100	Beryllium - Be @ 10µg/mL in 2% HNO_3	100 mL
VHG-PBEN-100	Beryllium - Be 1000µg/mL in HNO_3	100 mL
VHG-PBEN-500	Beryllium - Be @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TBEN-100	Beryllium - Be @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TBEN-500	Beryllium - Be @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LSEN-100	Selenium - Se @ 10µg/mL in 2% HNO_3	100 mL
VHG-PSEN-100	Selenium - Se @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PSEN-500	Selenium - Se @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TSEN-100	Selenium - Se @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TSEN-500	Selenium - Se @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PSINF-100	Silicon - Si @ 1000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-PSINF-500	Silicon - Si @ 1000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-PSIW-100	Silicon - Si @ 1000µg/mL in H_2O, tr. F^-	100 mL
VHG-PSIW-500	Silicon - Si @ 1000µg/mL in H_2O, tr. F^-	500 mL
VHG-TSINF-100	Silicon - Si @ 10,000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-TSINF-500	Silicon - Si @ 10,000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-TSIW-100	Silicon - Si @ 10000µg/mL in H_2O, tr. F^-	100 mL
VHG-TSIW-500	Silicon - Si @ 10000µg/mL in H_2O, tr. F^-	500 mL
VHG-LAGN-100	Silver - Ag @ 10µg/mL in 2% HNO_3	100 mL
VHG-PAGN-100	Silver - Ag @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PAGN-500	Silver - Ag @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TAGN-100	Silver - Ag @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TAGN-500	Silver - Ag @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PNAN-100	Sodium - Na @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PNAN-500	Sodium - Na @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TNAN-100	Sodium - Na @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TNAN-500	Sodium - Na @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LSRN-100	Strontium - Sr @ 10µg/mL in 5% HNO_3	100 mL
VHG-PSRN-100	Strontium - Sr @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PSRN-500	Strontium - Sr @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TSRN-100	Strontium - Sr @ 10000µg/mL in 5% HNO_3	100 mL

Single-element standards

Code	Product	Unit
VHG-TSRN-500	Strontium - Sr @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PSW-100	Sulfur - S @ 1000µg/mL in H_2O	100 mL
VHG-PSW-500	Sulfur - S @ 1000µg/mL in H_2O	500 mL
VHG-TSW-100	Sulfur - S @ 10000µg/mL in H_2O	100 mL
VHG-TSW-500	Sulfur - S @ 10000µg/mL in H_2O	500 mL
VHG-PTAF-100	Tantalum -Ta @ 1000µg/mL in 2% HF	100 mL
VHG-PTAF-500	Tantalum -Ta @ 1000µg/mL in 2% HF	500 mL
VHG-TTAF-100	Tantalum -Ta @ 10000µg/mL in 2% HF	100 mL
VHG-TTAF-500	Tantalum -Ta @ 10000µg/mL in 2% HF	500 mL
VHG-PTEH-100	Tellurium - Te @ 1000µg/mL in 20% HCl	100 mL
VHG-PTEH-500	Tellurium - Te @ 1000µg/mL in 20% HCl	500 mL
VHG-PTEN-100	Tellurium - Te @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PTEN-500	Tellurium - Te @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TTEH-100	Tellurium - Te @ 10000µg/mL in 20% HCl	100 mL
VHG-TTEH-500	Tellurium - Te @ 10000µg/mL in 20% HCl	500 mL
VHG-TTEN-100	Tellurium - Te @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TTEN-500	Tellurium - Te @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LTBN-100	Terbium - Tb @ 10µg/mL in 2% HNO_3	100 mL
VHG-PTBN-100	Terbium - Tb @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PTBN-500	Terbium - Tb @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TTBN-100	Terbium - Tb @ 10000µg/mLin 5% HNO_3	100 mL
VHG-TTBN-500	Terbium - Tb @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LBIN-100	Bismuth - Bi @ 10µg/mL in 2% HNO_3	100 mL
VHG-PBIN-100	Bismuth - Bi @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PBIN-500	Bismuth - Bi @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TBIN-100	Bismuth - Bi @ 10000µg/mLin 5% HNO_3	100 mL
VHG-TBIN-500	Bismuth - Bi @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PTLN-100	Thallium - Tl @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PTLN-500	Thallium - Tl @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TTLN-100	Thallium - Tl @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TTLN-500	Thallium - Tl @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PTHN-100	Thorium - Th @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PTHN-500	Thorium - Th @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TTHN-100	Thorium - Th @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TTHN-500	Thorium - Th @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PTMN-100	Thulium - Tm @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PTMN-500	Thulium - Tm @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TTMN-100	Thulium - Tm @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TTMN-500	Thulium - Tm @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LSNH-100	Tin - Sn @ 10µg/mL in 5% HCl	100 mL
VHG-LSNNF-100	Tin - Sn in 5% HNO_3, tr. HF, @10ug/mL	100 mL
VHG-PSNH-100	Tin - Sn @ 1000µg/mL in 20% HCl	100 mL
VHG-PSNH-500	Tin - Sn @ 1000µg/mL in 20% HCl	500 mL
VHG-PSNNF-100	Tin - Sn @ 1000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-PSNNF-500	Tin - Sn @ 1000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-TSNH-100	Tin - Sn @ 10000µg/mL in 20% HCl	100 mL
VHG-TSNH-500	Tin - Sn @ 10000µg/mL in 20% HCl	500 mL
VHG-TSNNF-100	Tin - Sn @ 10000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-TSNNF-500	Tin - Sn @ 10000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-LTINF-100	Titanium - Ti in 2% HNO_3, tr. HF, Ti @ 10µg/mL	100 mL
VHG-PTINF-100	Titanium - Ti @ 1000µg/mL in 5% HNO_3, tr. HF	100 mL

Code	Product	Unit
VHG-PTINF-500	Titanium - Ti @ 1000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-PTIW-100	Titanium - Ti @ 1000µg/mL in H_2O, tr. F^-	100 mL
VHG-PTIW-500	Titanium - Ti @ 1000µg/mL in H_2O, tr. F^-	500 mL
VHG-TTINF-100	Titanium - Ti @ 10000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-TTINF-500	Titanium - Ti @ 10000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-TTIW-100	Titanium - Ti @ 10000µg/mL in H_2O, tr. F^-	100 mL
VHG-TTIW-500	Titanium - Ti @ 10000µg/mL in H_2O, tr. F^-	500 mL
VHG-PWNF-100	Tungsten - W @ 1000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-PWNF-500	Tungsten - W @ 1000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-PWW-100	Tungsten - W @ 1000µg/mL in H_2O	100 mL
VHG-PWW-500	Tungsten - W @ 1000µg/mL in H_2O	500 mL
VHG-TWNF-100	Tungsten - W @ 10000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-TWNF-500	Tungsten - W @ 10000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-TWW-100	Tungsten - W @ 10000µg/mL in H_2O	100 mL
VHG-TWW-500	Tungsten - W @ 10000µg/mL in H_2O	500 mL
VHG-LUN-100	Uranium - U @10ug/mL in 5% HNO_3	100 mL
VHG-PUN-100	Uranium - U @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PUN-500	Uranium - U @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TUN-100	Uranium - U @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TUN-500	Uranium - U @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LVN-100	Vanadium - V @10ug/mL in 5% HNO_3	100 mL
VHG-PVN-100	Vanadium - V @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PVN-500	Vanadium - V @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TVN-100	Vanadium - V @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TVN-500	Vanadium - V @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PYBN-100	Ytterbium - Yb @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PYBN-500	Ytterbium - Yb @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TYBN-100	Ytterbium - Yb @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TYBN-500	Ytterbium - Yb @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LYN-100	Yttrium - Y @10ug/mL in 2% HNO_3	100 mL
VHG-PYN-100	Yttrium - Y @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PYN-500	Yttrium - Y @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TYN-100	Yttrium - Y @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TYN-500	Yttrium - Y @ 10000µg/mL in 5% HNO_3	500 mL
VHG-LBW-100	Boron - B @10ug/mL in H_2O	100 mL
VHG-PBW-100	Boron - B @ 1000µg/mL in H_2O	100 mL
VHG-PBW-500	Boron - B @ 1000µg/mL in H_2O	500 mL
VHG-PBZ-100	Boron - B @ 1000µg/mL in NH_4OH	100 mL
VHG-PBZ-500	Boron - B @ 1000µg/mL in NH_4OH	500 mL
VHG-TBZ-100	Boron - B @ 10000µg/mL in NH_4OH	100 mL
VHG-TBZ-500	Boron - B @ 10000µg/mL in NH_4OH	500 mL
VHG-LZNN-100	Zinc - Zn @10ug/mL in 2% HNO_3	100 mL
VHG-PZNN-100	Zinc - Zn @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PZNN-500	Zinc - Zn @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TZNN-100	Zinc - Zn @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TZNN-500	Zinc - Zn @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PZRH-100	Zirconium - Zr @ 1000µg/mL in 5% HCl	100 mL
VHG-PZRH-500	Zirconium - Zr @ 1000µg/mL in 5% HCl	500 mL
VHG-TZRH-100	Zirconium - Zr @ 10000µg/mL in 5% HCl	100 mL
VHG-TZRH-500	Zirconium - Zr @ 10000µg/mL in 5% HCl	500 mL
VHG-LCDN-100	Cadmium - Cd @ 10µg/mL in 2% HNO_3	100 mL

Single-element standards

Code	Product	Unit
VHG-PCDN-100	Cadmium - Cd @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PCDN-500	Cadmium - Cd @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TCDN-100	Cadmium - Cd @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TCDN-500	Cadmium - Cd @ 10000µg/mL in 5% HNO_3	500 mL
VHG-PCSN-100	Cesium - Cs @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PCSN-500	Cesium - Cs @ 1000µg/mL in 5% HNO_3	500 mL
VHG-TCSN-100	Cesium - Cs @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TCSN-500	Cesium - Cs @ 10000µg/mL in 5% HNO_3	500 mL
VHG-SPAS3-100	As^{+3} (from As_2O_3) @ 100 µg/ml in 2% HCl	100 mL
VHG-SPAS3-50	As^{+3} (from As_2O_3) @ 100 µg/ml in 2% HCl	50 mL
VHG-SPAS5W-100	As^{+5} (from As_2O5) @ 100 µg/ml in H_2O	100 mL
VHG-SPAS5W-50	As^{+5} (from As_2O5) @ 100 µg/ml in H_2O	50 mL
VHG-PCR6W-100	Cr^{+6} (from Na_2CrO_4) @ 1000 µg/ml in H_2O	100 mL
VHG-PCR6W-500	Cr^{+6} (from Na_2CrO_4) @ 1000 µg/ml in H_2O	500 mL
VHG-SPCR3-50	Cr^{+3} (from $Cr(NO_3)_3$) @ 100 µg/mL in 2% HNO_3	50 mL
VHG-SPCR6-100	Cr^{+6} (from Na_2CrO_4) @ 100 µg/ml in H_2O	100 mL
VHG-SPCR6-50	Cr^{+6} (from Na_2CrO_4) @ 100 µg/ml in H_2O	50 mL
VHG-SPSE4-100	Se^{+4} (from H_2SeO_3) @ 100 µg/mL in 2% HNO_3	100 mL
VHG-SPSE4-50	Se^{+4} (from H_2SeO_3) @ 100 µg/mL in 2% HNO_3	50 mL
VHG-SPSE6-100	Se^{+6} (from H_2SeO_4) @ 100 µg/ml in H_2O	100 mL
VHG-SPSE6-50	Se^{+6} (from H_2SeO_4) @ 100 µg/ml in H_2O	50 mL
VHG-MMC-25	Methyl Mercury Chloride (CH_3HgCl) @ 1000 µg/mL in H_2O	25 mL
VHG-LIS106CD-50	Cadmium 106 in 2% HNO_3, Cd: 10 µg/mL Nom., 106Cd approx. 74%	50 mL
VHG-LIS10BN-50	Boron 10 in 2% HNO_3, B: 100 µg/mL Nom., 10B approx. 97%	50 mL
VHG-LIS11B-50	Boron 11 (Natural) in H_2O B: 100µg/mL Nom., 11B, approx. 80%	50 mL
VHG-LIS122SN-50	Tin 122 in 2% HNO_3, tr. HF	50 mL
VHG-LIS203TL-50	Thallium 203 in 2% HNO_3	50 mL
VHG-LIS50CR-50	Chromium 50 in 2% HNO_3, Cr: 10 µg/mL Nom., 50Cr approx. 97%	50 mL
VHG-LIS57FE-50	Iron 57 in 2% HNO_3, Fe: 10 µg/mL Nom., 57Fe approx. 95%	50 mL
VHG-LIS61NI-50	Nickel 61 in 2% HNO_3	50 mL
VHG-LIS6LIZ-100	Lithium 6 in 2% HNO_3, Li: 100 µg/mL Nom., 6Li approx. 95%.	100 mL
VHG-LIS78SE-50	Selenium 78 in 2% HNO_3, Se: 10 µg/mL Nom., 78Se approx. 94%	50 mL
VHG-LIS82SE-50	Selenium 82 in 2% HNO_3, Se: 10 µg/mL Nom., 82Se approx. 99%	50 mL
VHG-LISND-50	Neodymium in 2% HNO_3, Nd: 10 µg/mL Nom., natural abundance	50 mL
VHG-LISPB1-50	Lead in 2% HNO_3, Pb: 100 µg/mL Nom., natural abundance values	50 mL
VHG-LISSR-50	Strontium in 2% HNO_3, Sr: 100 µg/mL Nom., natural abundance values	50 mL
VHG-AAGN-100	Silver - Ag @ 1000µg/mL in 5% HNO_3	100 mL
VHG-AAGN-500	Silver - Ag @ 1000µg/mL in 5% HNO_3	500 mL
VHG-AALH-100	Aluminum - Al @ 1000µg/mL in 5% HCl	100 mL
VHG-AALH-500	Aluminum - Al @ 1000µg/mL in 5% HCl	500 mL
VHG-AASN-100	Arsenic - As @ 1000 µg/mL in 5% HNO_3	100 mL
VHG-AASN-500	Arsenic - As @ 1000 µg/mL in 5% HNO_3	500 mL
VHG-AAUH-100	Gold - Au @ 1000 µg/mL in HCl	100 mL
VHG-AAUH-500	Gold - Au @ 1000 µg/mL in HCl	500 mL
VHG-ABAN-100	Barium - Ba @ 1000µg/mL in 5% HNO_3	100 mL
VHG-ABAN-500	Barium - Ba @ 1000µg/mL in 5% HNO_3	500 mL
VHG-ABEN-100	Beryllium - Be @ 1000µg/mL in 5% HNO_3	100 mL
VHG-ABEN-500	Beryllium - Be @ 1000µg/mL in 5% HNO_3	500 mL
VHG-ABIN-100	Bismuth - Bi @ 1000µg/mL in 5% HNO_3	100 mL
VHG-ABIN-500	Bismuth - Bi @ 1000µg/mL in 5% HNO_3	500 mL
VHG-ABW-100	Boron - B @ 1000µg/ml in H_2O	100 mL

Code	Product	Unit
VHG-ABW-500	Boron - B @ 1000µg/ml in H_2O	500 mL
VHG-ACAN-100	Calcium - Ca @ 1000µg/mL in 5% HNO_3	100 mL
VHG-ACAN-500	Calcium - Ca @ 1000µg/mL in 5% HNO_3	500 mL
VHG-ACDN-100	Cadmium - Cd @ 1000µg/mL in 5% HNO_3	100 mL
VHG-ACDN-500	Cadmium - Cd @ 1000µg/mL in 5% HNO_3	500 mL
VHG-ACON-100	Cobalt - Co @ 1000µg/mL in 5% HNO_3	100 mL
VHG-ACON-500	Cobalt - Co @ 1000µg/mL in HNO_3	500 mL
VHG-ACRH-100	Chromium - Cr @ 1000µg/mL in 5% HCl	100 mL
VHG-ACRH-500	Chromium - Cr @ 1000µg/mL in 5% HCl	500 mL
VHG-ACUN-100	Copper - Cu @ 1000µg/mL in 5% HNO_3	100 mL
VHG-ACUN-500	Copper - Cu @ 1000µg/mL in 5% HNO_3	500 mL
VHG-AFEN-100	Iron - Fe @ 1000µg/mL in 5% HNO_3	100 mL
VHG-AFEN-500	Iron - Fe @ 1000µg/mL in 5% HNO_3	500 mL
VHG-AHGN-100	Mercury - Hg @ 1000µg/mL in 5% HNO_3	100 mL
VHG-AHGN-500	Mercury - Hg @ 1000µg/mL in 5% HNO_3	500 mL
VHG-AKN-100	Potassium - K @ 1000µg/mL in 5% HNO_3	100 mL
VHG-AKN-500	Potassium - K @ 1000µg/mL in 5% HNO_3	500 mL
VHG-ALIN-100	Lithium - Li @ 1000µg/mL in 5% HNO_3	100 mL
VHG-ALIN-500	Lithium - Li @ 1000µg/mL in 5% HNO_3	500 mL
VHG-AMGN-100	Magnesium - Mg @ 1000µg/mL in 5% HNO_3	100 mL
VHG-AMGN-500	Magnesium - Mg @ 1000µg/mL in 5% HNO_3	500 mL
VHG-AMNN-100	Manganese - Mn @ 1000µg/mL in 5% HNO_3	100 mL
VHG-AMNN-500	Manganese - Mn @ 1000µg/mL in 5% HNO_3	500 mL
VHG-AMONF-100	Molybdenum - Mo @ 1000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-AMONF-500	Molybdenum - Mo @ 1000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-ANAN-100	Sodium - Na @ 1000µg/mL in 5% HNO_3	100 mL
VHG-ANAN-500	Sodium - Na @ 1000µg/mL in 5% HNO_3	500 mL
VHG-ANIN-100	Nickel - Ni @ 1000µg/mL in 5% HNO_3	100 mL
VHG-ANIN-500	Nickel - Ni @ 1000µg/mL in 5% HNO_3	500 mL
VHG-APBN-100	Lead - Pb @ 1000µg/mL in 5% HNO_3	100 mL
VHG-APBN-500	Lead - Pb @ 1000µg/mL in 5% HNO_3	500 mL
VHG-APDH-100	Palladium - Pd @ 1000µg/mL in HCl	100 mL
VHG-APDH-500	Palladium - Pd @ 1000µg/mL in HCl	500 mL
VHG-APTH-100	Platinum - Pt @ 1000µg/mL in HCl	100 mL
VHG-APTH-500	Platinum - Pt @ 1000µg/mL in HCl	500 mL
VHG-ASBH-100	Antimony - Sb @ 1000µg/mL in 30% HCl	100 mL
VHG-ASBH-500	Antimony - Sb @ 1000µg/mL in 30% HCl	500 mL
VHG-ASEN-100	Selenium - Se @ 1000µg/mL in 5% HNO_3	100 mL
VHG-ASEN-500	Selenium - Se @ 1000µg/mL in 5% HNO_3	500 mL
VHG-ASINF-100	Silicon - Si @ 1000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-ASINF-500	Silicon - Si @ 1000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-ASNH-100	Tin - Sn @ 1000µg/mL in 20% HCl	100 mL
VHG-ASNH-500	Tin - Sn @ 1000µg/mL in 20% HCl	500 mL
VHG-ASRN-100	Strontium - Sr @ 1000µg/mL in HNO_3	100 mL
VHG-ASRN-500	Strontium - Sr @ 1000µg/mL in 5% HNO_3	500 mL
VHG-ATINF-100	Titanium - Ti @ 1000µg/mL in 5% HNO_3, tr. HF	100 mL
VHG-ATINF-500	Titanium - Ti @ 1000µg/mL in 5% HNO_3, tr. HF	500 mL
VHG-ATLN-100	Thallium - Tl @ 1000µg/mL in 5% HNO_3	100 mL
VHG-ATLN-500	Thallium - Tl @ 1000µg/mL in 5% HNO_3	500 mL
VHG-AVN-100	Vanadium - V @ 1000µg/mL in 5% HNO_3	100 mL
VHG-AVN-500	Vanadium - V @ 1000µg/mL in 5% HNO_3	500 mL

Code	Product	Unit
VHG-AZNN-100	Zinc - Zn 1000µg/mL in 5% HNO_3	100 mL
VHG-AZNN-500	Zinc - Zn @ 1000µg/mL in 5% HNO_3	500 mL
VHG-MPDN1K-100	Palladium Nitrate Matrix Modifier in 10% HNO_3	100 mL
VHG-MPM1-250	Palladium / Magnesium Matrix Modifier in 2% HNO_3	250 mL
VHG-MPM2-250	Palladium / Magnesium Matrix Modifier in 2% HNO_3	250 mL
VHG-MPM3-250	Ammonium Phosphate / Magnesium Matrix Modifier in 2% HNO_3	250 mL
VHG-LGENF-100	Germanium - Ge @10ug/mL in 2% HNO_3, tr. HF	100 mL
VHG-LGEW-100	Germanium - Ge @10ug/mL in H_2O/tr. F^-	100 mL
VHG-PZRN-100	Zirconium - Zr @ 1000µg/mL in 5% HNO_3	100 mL
VHG-PZRN-500	Zirconium - Zr @ 1000µg/mL in 5% HNO_3	500 mL
VHG-SPCR3-100	Chromium $^{+3}$ in 2% HNO_3, Cr $^{+3}$ @ 100 µg/mL	100 mL
VHG-TZRN-100	Zirconium - Zr @ 10000µg/mL in 5% HNO_3	100 mL
VHG-TZRN-500	Zirconium - Zr @ 10000µg/mL in 5% HNO_3	500 mL

Ion chromatography and wet chemistry standards

Code	Product	Unit
VHG-I1PCABR-100	Bromide @ 10000 µg/mL in H_2O	100 mL
VHG-I1PCACL-100	Chloride @ 10000 µg/mL in H_2O	100 mL
VHG-IACET-100	Acetate Ion Chromatography Standard in H_2O Acetate - $CH_3CO_2^{(-)}$ @1000µg/m	100 mL
VHG-IACET-500	Acetate Ion Chromatography Standard in H_2O Acetate - $CH_3CO_2^{(-)}$ @1000µg/mL	500 mL
VHG-IBR-100	Bromide Ion Chromatography Standard in H_2O Bromide $Br^{(-)}$ @1000µg/mL	100 mL
VHG-IBR-500	Bromide Ion Chromatography Standard in H_2O Bromide - $Br^{(-)}$ @1000µg/mL	500 mL
VHG-IBRO3-100	Bromate Ion Chromatography Standard in H_2O Bromate - $BrO_3^{(-)}$ @1000µg/mL	100 mL
VHG-IBRO3-500	Bromate Ion Chromatography Standard in H_2O Bromate - $BrO_3^{(-)}$ @1000µg/mL	500 mL
VHG-ICL100-500	Chloride Ion Chromatography Standard in H_2OCl: 100µg/mL	500 mL
VHG-ICL1K-100	Chloride Ion Chromatography Standard in H_2O Chloride - $Cl^{(-)}$ @1000µg/mL	100 mL
VHG-ICL1K-500	Chloride Ion Chromatography Standard in H_2O Chloride - $Cl^{(-)}$ @1000µg/mL	500 mL
VHG-ICLO2-100	Chlorite Ion Chromatography Standard in H_2O Chlorite - $ClO_2^{(-)}$ @1000µg/mL	100 mL
VHG-ICLO2-500	Chlorite Ion Chromatography Standard in H_2O Chlorite - $ClO_2^{(-)}$ @1000µg/mL	500 mL
VHG-ICLO3-100	Chlorate Ion Chromatography Standard in H_2O Chlorate - $ClO_3^{(-)}$ @1000µg/mL	100 mL
VHG-ICLO3-500	Chlorate Ion Chromatography Standard in H_2O Chlorate - $ClO_3^{(-)}$ @1000µg/mL	500 mL
VHG-ICLO4-100	Perchlorate Ion Chromatography Standard in H_2O Perchlorate - $ClO_4^{(-)}$ @1000µg/mL	100 mL
VHG-ICLO4-500	Perchlorate Ion Chromatography Standard in H_2O Perchlorate - $ClO_4^{(-)}$ @1000µg/mL	500 mL
VHG-ICRO-100	Chromate Ion Chromatography Standard in H_2O Chromate - $CrO_4(-_2)$ @1000µg/mL	100 mL
VHG-ICRO-500	Chromate Ion Chromatography Standard in H_2O Chromate - $CrO_4(-_2)$ @1000µg/mL	500 mL
VHG-IDCRO-100	Dichromate Ion Chromatography Standard in H_2O Dichromate - $Cr_2O_7^{(-2)}$ @1000µg/mL	100 mL
VHG-IDCRO-500	Dichromate Ion Chromatography Standard in H_2O Dichromate - $Cr_2O_7^{(-2)}$ @1000µg/mL	500 mL
VHG-IF100-500	Fluoride Ion Chromatography Standard in H_2O,Fluoride - $F^{(-)}$ @100µg/mL	500 mL
VHG-IF1K-100	Fluoride Ion Chromatography Standard in H_2O,Fluoride - $F^{(-)}$ @1000µg/mL	100 mL
VHG-IF1K-500	Fluoride Ion Chromatography Standard in H_2O,Fluoride - $F^{(-)}$ @1000µg/mL	500 mL
VHG-IFORM-100	Formate Ion Chromatography Standard in H_2O,Formate - $HCO_2^{(-)}$ @1000µg/mL	100 mL
VHG-IFORM-500	Formate Ion Chromatography Standard in H_2O,Formate - $HCO_2^{(-)}$ @1000µg/mL	500 mL
VHG-IGLY-100	Glycolate Ion Chromatography Standard in H_2O,Glycolate - $C_2H_3O_3^{(-)}$ @ 1,000ug/mL	100 mL
VHG-IGLY-500	Glycolate Ion Chromatography Standard in H_2O,Glycolate - $C_2H_3O_3^{(-)}$ @ 1,000ug/mL	500 mL
VHG-II-500	Iodide Ion Chromatography Standard in H_2O Iodide - $I^{(-)}$ @1000µg/mL	500 mL
VHG-IMOLB-100	Molybdate Ion Chromatography Standard in H_2O Molybdate - $MoO_4^{(-2)}$ @1000µg/mL	100 mL
VHG-IMOLB100-500	Molybdate Ion Chromatography Standard in H_2O Molybdate - $MoO_4^{(-2)}$ @100µg/mL	500 mL
VHG-IMOLB-500	Molybdate Ion Chromatography Standard in H_2O Molybdate - $MoO_4^{(-2)}$ @1000µg/mL	500 mL
VHG-INO2-100	Nitrite: NO_2^- @1000µg/mL	100 mL
VHG-INO2-500	Nitrite: NO_2^- @1000µg/mL	500 mL

Code	Product	Unit
VHG-INO2N-100	Nitrite as N: NO_2^- as N @1000µg/mL	100 mL
VHG-INO2N-500	Nitrite as N: NO_2^- as N @1000µg/mL	500 mL
VHG-INO3-100	Nitrate Ion Chromatography Standard in H_2O,Nitrate - $NO_3^{(-)}$ @1000µg/mL	100 mL
VHG-INO3-500	Nitrate Ion Chromatography Standard in H_2O, Nitrate - $NO_3^{(-)}$ @1000µg/mL	500 mL
VHG-INO3N-100	Nitrate as N Ion Chromatography Standard in H_2O, $NO_3^{(-)}$ as N: 1000µg/mL	100 mL
VHG-INO3N-500	Nitrate as N Ion Chromatography Standard in H_2O,$NO_3^{(-)}$ as N: 1000µg/mL	500 mL
VHG-IOXAL-100	Oxalate Ion Chromatography Standard in H_2O, Oxalate - $C_2O_4(-_2)$ @1000µg/mL	100 mL
VHG-IOXAL-500	Oxalate Ion Chromatography Standard in H_2O, Oxalate - $C_2O_4(-_2)$ @1000µg/mL	500 mL
VHG-IPO4-100	Phosphate Ion Chromatography Standard in H_2O, Phosphate - $PO_4^{(-3)}$ @1000µg/mL	100 mL
VHG-IPO4-500	Phosphate Ion Chromatography Standard in H_2O,Phosphate - $PO_4^{(-3)}$ @1000µg/mL	500 mL
VHG-IPO4P-100	Phosphate as P Ion Chromatography Standard in H_2O, $PO_4^{(-3)}$ as P: 1000µg/mL	100 mL
VHG-IPO4P-500	Phosphate as P Ion Chromatography Standard in H_2O, $PO_4^{(-3)}$ as P: 1000µg/mL	500 mL
VHG-ISO4100-500	Sulfate Ion Chromatography Standard in H_2O,$SO4^{(-2)}$ @ 100 mg/L	500 mL
VHG-ISO41K-100	Sulfate Ion Chromatography Standard in H_2O, $SO4^{(-2)}$ @1000µg/mL	100 mL
VHG-ISO41K-500	Sulfate Ion Chromatography Standard in H_2O,$SO4^{(-2)}$ @1000µg/mL	500 mL
VHG-IBA-100	Barium Ion Chromatography Standard in dil HNO_3Barium - Ba^{+2} @1000µg/mL	100 mL
VHG-IBA-500	Barium Ion Chromatography Standard in dil HNO_3Barium - BA @1000µg/mL	500 mL
VHG-ICA-100	Calcium Ion Chromatography Standard in dil HNO_3Calcium - Ca^{+2} @1000µg/mL	100 mL
VHG-ICA-500	Calcium Ion Chromatography Standard in dil HNO_3Calcium - Ca^{+2} @1000µg/mL	500 mL
VHG-IETA1K-100	Ethanolamine Ion Chromatography Standard in H_2O Ethanolamine @ 1000µg/mL	100 mL
VHG-IETA1K-500	Ethanolamine Ion Chromatography Standard in H_2O Ethanolamine @1000µg/mL	500 mL
VHG-IK-100	Potassium Ion Chromatography Standard in dil HNO_3 Potassium - K^+ @1000µg/mL	100 mL
VHG-IK-500	Potassium Ion Chromatography Standard in dil HNO_3 Potassium - K^+ @1000µg/mL	500 mL
VHG-ILI100-500	Lithium Ion Chromatography Standard in dil HNO_3 Lithium - Li^+ @100µg/mL	500 mL
VHG-ILI1K-100	Lithium Ion Chromatography Standard in dil HNO_3 Lithium - Li^+ @1000µg/mL	100 mL
VHG-ILI1K-500	Lithium Ion Chromatography Standard in dil HNO_3 Lithium - Li^+ @1000µg/mL	500 mL
VHG-IMG-100	Magnesium Ion Chromatography Standard in dil HNO_3 Magnesium - Mg^{+2} @1000µg/mL	100 mL
VHG-IMG-500	Magnesium Ion Chromatography Standard in dil HNO_3 Magnesium - Mg^{+2} @1000µg/mL	500 mL
VHG-INAN-100	Sodium Ion Chromatography in 5% HNO_3	100 mL
VHG-INAN-500	Sodium Ion Chromatography Standard in dil HNO_3 Sodium - Na^+ @1000µg/mL	500 mL
VHG-INAW100-500	Sodium - Na^+ @100µg/mL- 500mL in H_2O Sodium - Na^+ @100µg/mL, 500mL	500 mL
VHG-INAW1K-100	Sodium Ion Chromatography Standard in H_2O Sodium - Na^+ @1000µg/mL	100 mL
VHG-INAW1K-500	Sodium Ion Chromatography Standard in H_2O Sodium - Na^+ @1000µg/mL	500 mL
VHG-INH4100-500	Ammonium Ion Chromatography Standard in H_2O,Ammonium - $NH4^{(+)}$ @100µg/mL	500 mL
VHG-INH41K-100	Ammonium Ion Chromatography Standard in H_2O,Ammonium - $NH4^{(+)}$ @1000µg/mL	100 mL
VHG-INH41K-500	Ammonium Ion Chromatography Standard in H_2O,Ammonium - $NH4^{(+)}$ @1000µg/mL	500 mL
VHG-INH3-100-100	Ammonia Ion Chromatography Standard in H_2O NH_3 @ 100µg/mL	100 mL
VHG-INH3-100-500	Ammonia Ion Chromatography Standard in H_2O NH_3 @ 100µg/mL	500 mL
VHG-INH3-10-100	Ammonia Ion Chromatography Standard in H_2O Ammonia - NH_3 @ 10µg/mL	100 mL
VHG-INH3-10-500	Ammonia Ion Chromatography Standard in H_2O NH_3 @ 10µg/mL	500 mL
VHG-INH3-1-100	Ammonia Ion Chromatography Standard in H_2O NH_3 @ 1µg/mL	100 mL
VHG-INH3-1-500	Ammonia Ion Chromatography Standard in H_2O NH_3 @ 1µg/mL	500 mL
VHG-INH3-1K-100	Ammonia Ion Chromatography Standard in H_2O NH_3 @ 1000µg/mL	100 mL
VHG-INH3-1K-500	Ammonia Ion Chromatography Standard in H_2O NH_3 @ 1000µg/mL, 500mL	500 mL
VHG-INH3-1P-100	Ammonia Ion Chromatography Standard in H_2O, NH_3 @ 10000 µg/mL	100 mL
VHG-INH3-1P-500	Ammonia Ion Chromatography Standard in H_2O, NH_3 @ 10000 µg/mL	500 mL
VHG-IELUENT1-500	Eluent Concentrate 1 in H_2O,0.18M Na_2CO_3,+ 0.17M $NaHCO_3$	500 mL
VHG-IELUENT3-500	Eluent Concentrate 3 in H_2O,0.5M Na_2CO_3	500 mL
VHG-IELUENT4-500	Eluent Concentrate 4 in H_2O,0.5M $NaHCO_3$	500 mL
VHG-ICM1-100	Multi-Anion Standard 1 in H_2O 100ug/mL F^-, Cl^-, Br^-, NO_3^-, $PO4^{(-3)}$, $SO4^{(-2)}$	100 mL
VHG-ICM2-100	Multi-Anion Standard 2 in H_2O 100ug/mL F^-, Cl^-, $SO4^{(-2)}$	100 mL

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Code	Product	Unit
VHG-ICM3-100	Multi-Anion Standard 3 in H_2O F^- ..... 20 µg/mL Cl^- ..... 30 µg/mL NO_3^- ..... 100 µg/mL PO_4^- ..... 3150 µg/mL SO_4^- ..... 2150 µg/mL	100 mL
VHG-ICM4-100	Multi-Anion Standard 4 in H_2O F^- ..... 100 µg/mL Cl^- ..... 200 µg/mL Br^- ..... 400 µg/mL NO_3^- ..... 400 µg/mL SO_4^{-2} ..... 400 µg/mL PO_4^{-3} ..... 600 µg/mL	100 mL
VHG-ICM7A-100	Multi Ion Standard #7A: F, Cl, NO3 as N, Br, SO4, PO4 as P @ 1000µg/mL	100 mL
VHG-ICM8-100	Multi-Anion Standard 8: Cl, F, NO_3, SO_4 @ 1000µg/mL in H_2O; 100mL	100 mL
VHG-ICM5A-100	Multi-Cation Standard 1 in dil. HNO_3 Ca^+ ..... 2500 µg/mL K^+ ..... 500 µg/mL Li^+ ..... 50 µg/mL, Mg^+ ..... 2250 µg/mL Na^+ ..... 200 µg/mL NH_4^+ ..... 250 µg/mL	100 mL
VHG-B1K-500	Boron Titration Standard - B @ 1,000 mg/L in H_2O	500 mL
VHG-CN-100	Cyanide Test Standard - CN @ 1000 mg/L in 0.1% NaOH, 100mL	100 mL
VHG-CN-500	Cyanide Test Standard - CN @ 1000 mg/L in 0.1% NaOH, 500mL	500 mL
VHG-COD1K-100	COD @ 1000mg/L in H_2O, 0.5% H_2SO_4	100 mL
VHG-CONDNA100-1L	Conductivity Test Standard for Water in H_2O, 100 µmho/cm	1 L
VHG-CONDNA10K-1L	Conductivity Test Standard for Water in H_2O 10000 µmho/cm	1 L
VHG-CONDNA1K-1L	Conductivity Test Standard for Water in H_2O 1000 µmho/cm	1 L
VHG-IHYD100-100	Hydrazine Ion Chromatography Standard in 1% Acetic Acid,Hydrazine - N_2H_4 @ 100mg/L	100 mL
VHG-IHYD100-500	Hydrazine Ion Chromatography Standard in 1% Acetic Acid,Hydrazine - N_2H_4 @ 100mg/L	500 mL
VHG-IHYD1K-100	Hydrazine Ion Chromatography Standard in 1% Acetic Acid,Hydrazine - N_2H_4 @ 1000mg/L	100 mL
VHG-IHYD1K-500	Hydrazine Ion Chromatography Standard in 1% Acetic Acid,Hydrazine - N_2H_4 @ 1000mg/L	500 mL
VHG-ISIO2100-500	Silica Ion Chromatography Standard in H_2O, Silica - SiO_2 @ 100 mg/L	500 mL
VHG-ISIO21K-100	Silica Ion Chromatography Standard in H_2O, Silica - SiO_2 @1000µg/mL	100 mL
VHG-TOC100-500	Total Organic Carbon-TOC @ 100 mg/L Ion Chromatography Standard in H_2O	500 mL
VHG-TOC1K-100	Total Organic Carbon-TOC @ 1000 mg/L Ion Chromatography Standard in H_2O	100 mL
VHG-TOC1K-500	Total Organic Carbon-TOC @ 1000 mg/L Ion Chromatography Standard in H_2O	500 mL
VHG-TOTKJN1K-100	Total Kjeldahl Test Std (TKN), 1,000mg/L in 1% HCl	100 mL
VHG-TOTKJN1K-500	Total Kjeldahl Test Std (TKN), 1,000mg/L in 1% HCl	500 mL
VHG-QWPCN-15	WP Cyanide QC Check Sample (12 months expiry from shipment) Total Cyanide: 0.1-1mg/L, 15mL yields 2L after dilution. Shipped in 15mL vial.	15 mL
VHG-QWPCNUT-15	WP Complex Nutrients (12 months expiry from shipment) Total Kjeldahl Nitrogen as N: 1.5-35mg/L, Total Phosphorus as P: 0.5-10mg/L. Yields 2L after dilution. Ships in 15mL vial.	15 mL
VHG-QWPCR6-15	WP Hexavalent Chromium QC Check (12 months expiry from shipment) Cr^{+6}: 45-880 µg/L. Yields 2L after dilution.	15 mL
VHG-QWPDEM-15	WP Demand QC Check Sample (12 months expiry from shipment)	15 mL
VHG-QWPMIN-500	WP Minerals (12 months expiry from shipment) Total Alkalinity as CaCO3..... 10-120mg/L Chloride: 35-275mg/L, Fluoride ..... 0.3-4mg/L Potassium ..... 4-40mg/L Sodium ..... 6-100mg/L Specific Conductance at 25°C... 200-930µmhos/cm Sulfate ..... 5-125mg/L Total Dissolved Solids at 180°C ..... 140-650mg/L Total Solids at 105°C..... 140-675mg/L	500 mL

Code	Product	Unit
VHG-QWPOG-23	WP Oil & Grease QC Check Sample (12 months expiry from shipment) Oil & Grease..... 20-100mg/L	23 mL
VHG-QWPPHEN-2	WP Total Phenolics (12 months expiry from shipment) Total Phenolics in the range of 0.06-5mg/L; one vial containing 23mL of concentrate that can be used to prepare 2 separate 1L solutions	2 mL
VHG-QWPRCL-2	WP Total Residual Chlorine (12 months expiry from shipment) Total Residual Chlorine in the range of 0.5-3mg/L; one vial containing 23mL of concentrate that can be used to prepare 2 separate 1L solutions	2 mL
VHG-QWPSNUT-15	WP Simple Nutrients (12 months expiry from shipment) Ammonia as N..... 0.65-19mg/L Nitrate as N ..... 0.25-40mg/L Nitrate + Nitrite, as N..... 0.25-40mg/L ortho-Phosphate as P..... 0.5-5.5mg/L	15 mL
VHG-QWPSOL-23	QC WP Solids Concentrate (12 months expiry from shipment) Total Solids at 105°C..... 140-675 mg/L Total Dissolved Solids at 180°C ..... 140-650 mg/L Non-Filterable Residue (TSS) ..... 23-100 mg/L	23 mL
VHG-QWSCN-15	WS Cyanide QC Check Sample (12 months expiry from shipment)	15 mL
VHG-QWSHRD-250	WS Hardness (12 months expiry from shipment) Calcium ..... 30-90 mg/L Calcium Hardness as $CaCO_3$ ..... 75-375 mg/L Total Hardness as $CaCO_3$ ..... 83-307 mg/L Magnesium..... 2-20 mg/L Sodium ..... 12-24 mg/L	250 mL
VHG-QWSIN-500	Water supply QC check sample for inorganics (12 months expiry from shipment) Alkalinity as $CaCO_3$ ..... 25-200 mg/L Chloride..... 20-160 mg/L Fluoride ..... 1-8 mg/L Nitrate as N ..... 3-10 mg/L Nitrate + Nitrite, as N:..... 3-10 mg/L Potassium ..... 10-40 mg/L Sodium ..... 10-400 mg/L Specific Conductance at 25°C.130-1300 µmhos/cm Sulfate..... 25-250 mg/L Total Filterable Residue at 180°C.... 100-1000 mg/L	500 mL
VHG-QWSONUT-15	WS o-Phosphate Nutrients (12 months expiry from shipment) ortho-Phosphate as P..... 0.5-5.5 mg/L	15 mL
VHG-QWSSOL-23	WS SolidsTotal Filterable Residue (12 months expiry from shipment) Total Filterable Residue at 180°C..... 200-450 mg/L Total Solids ..... 223-550 mg/L Non-Filterable Residue at 105°C..... 23-100 mg/L	23 mL
VHG-QWSTURB-15	WS Turbidity QC Check Sample (6 months expiry from shipment) Turbidity ..... 0.5-8 NTU	15 mL
VHG-QCPH-250	pH QC Check Sample: pH: 5-10 units 250mL	250 mL
VHG-QWSRCL-2	WS Residual Chlorine (12 months expiry from shipment) Total Residual Chlorine ..... 0.5-3 mg/L Free Residual Chlorine..... 0.5-3 mg/L	2 mL

Multi-element standards for ICP

Code	Product	Unit
VHG-SM10-100	Alkali & Alkaline Earths in 5% HNO_3 10 Analytes in 5% HNO_3 Ba (Barium) ..... 100 µg/mL Be (Beryllium) ..... 100 µg/mL Ca (Calcium) ..... 100 µg/mL Cs (Cesium) ..... 100 µg/mL Li (Lithium) ..... 100 µg/mL Mg (Magnesium) ..... 100 µg/mL K (Potassium) ..... 100 µg/mL Rb (Rubidium) ..... 100 µg/mL Na (Sodium) ..... 100 µg/mL Sr (Strontium) ..... 100 µg/mL	100 mL
VHG-SM10-500	Alkali & Alkaline Earths in 5% HNO_3	500 mL
VHG-SM16-100	Major Cations Mix in 5% HNO_3 6 Analytes in 5% HNO_3 Al (Aluminum) ..... 1000 µg/mL Ca (Calcium) ..... 1000 µg/mL Fe (Iron) ..... 1000 µg/mL Mg (Magnesium) .... 1000 µg/mL K (Potassium) ..... 1000 µg/mL Na (Sodium) ..... 1000 µg/mL	100 mL
VHG-SM16-500	Major Cations Mix in 5% HNO_3	500 mL
VHG-SM25A-100	Non-Metals in 5% HCl, tr. HF 7 Analytes in 5% HCl with trace HF As (Arsenic) ..... 100 µg/mL B (Boron) ..... 100 µg/mL P (Phosphorus) ..... 100 µg/mL Se (Selenium) ..... 100 µg/mL Si (Silicon) ..... 100 µg/mL S (Sulfur) ..... 100 µg/mL Te (Tellurium) ..... 100 µg/mL	100 mL
VHG-SM25A-500	Non-Metals in 5% HCl, tr. HF	500 mL
VHG-SM30A-100	Refractory Elements in 5% HCl, tr. HF 12 Analytes in 5% HCl with trace HF Al (Aluminum) ..... 100 µg/mL B (Boron) ..... 100 µg/mL Cr (Chromium) ..... 100 µg/mL Hf (Hafnium) ..... 100 µg/mL Mo (Molybdenum) .... 100 µg/mL Nb (Niobium) ..... 100 µg/mL Si (Silicon) ..... 100 µg/mL Ta (Tantalum) ..... 100 µg/mL Ti (Titanium) ..... 100 µg/mL W (Tungsten) ..... 100 µg/mL V (Vanadium) ..... 100 µg/mL Zr (Zirconium) ..... 100 µg/mL	100 mL
VHG-SM30A-500	Refractory Elements in 5%HCl, tr. HF	500 mL
VHG-SM35A-100	Common Elements Mix 1 in 5% HNO_3 9 Analytes in 5% HNO_3 Cd (Cadmium) ..... 100 µg/mL Cr (Chromium) ..... 100 µg/mL Co (Cobalt) ..... 100 µg/mL Cu (Copper) ..... 100 µg/mL Fe (Iron) ..... 100 µg/mL Mn (Manganese) ..... 100 µg/mL Ni (Nickel) ..... 100 µg/mL V (Vanadium) ..... 100 µg/mL Zn (Zinc) ..... 100 µg/mL	100 mL
VHG-SM35A-500	Common Elements Mix 1 in 5% HNO_3	500 mL
VHG-SM40-100	Noble Metals in 20% HCl 8 Analytes in 20% HCl Au (Gold) ..... 100 µg/mL Ir (Iridium) ..... 100 µg/mL Os (Osmium) ..... 100 µg/mL Pd (Palladium) ..... 100 µg/mL Pt (Platinum) ..... 100 µg/mL Re (Rhenium) ..... 100 µg/mL Rh (Rhodium) ..... 100 µg/mL Ru (Ruthenum) ..... 100 µg/mL	100 mL
VHG-SM40-500	Noble Metals in 20% HCl	500 mL
VHG-SM50B-100	Metalloid/Hydride Elements in 20% HCl, tr. HF 11 Analytes in 20% HCl with trace HF Sb (Antimony) ..... 100 µg/mL As (Arsenic) ..... 100 µg/mL Bi (Bismuth) ..... 100 µg/mL Ga (Gallium) ..... 100 µg/mL Ge (Germanium) ..... 100 µg/mL In (Indium) ..... 100 µg/mL Pb (Lead) ..... 100 µg/mL Se (Selenium) ..... 100 µg/mL Te (Tellurium) ..... 100 µg/mL Sn (Tin) ..... 100 µg/mL Ti (Titanium) ..... 100 µg/mL	100 mL
VHG-SM50B-500	Metalloid/Hydride Elements in 20% HCL, tr. HF	500 mL
VHG-SM60A-100	Rare Earth & 'Geo' Elements in 5% HNO_3 21 Analytes in 5% HNO_3 Ba (Barium) ..... 100 µg/mL Ce (Cerium) ..... 100 µg/mL Dy (Dysprosium) ..... 100 µg/mL Er (Erbium) ..... 100 µg/mL Eu (Europium) ..... 100 µg/mL Gd (Gadolinium) ..... 100 µg/mL Ho (Holmium) ..... 100 µg/mL La (Lanthanum) ..... 100 µg/mL Lu (Lutetium) ..... 100 µg/mL Nd (Neodymium) ..... 100 µg/mL Pr (Praseodymium) .. 100 µg/mL Rb (Rubidium) ..... 100 µg/mL Sm (Samarium) ..... 100 µg/mL Sc (Scandium) ..... 100 µg/mL Sr (Strontium) ..... 100 µg/mL Tb (Terbium) ..... 100 µg/mL Th (Thorium) ..... 100 µg/mL Tm (Thulium) ..... 100 µg/mL U (Uranium) ..... 100 µg/mL Yb (Ytterbium) ..... 100 µg/mL Y (Yttrium) ..... 100 µg/mL	100 mL
VHG-SM60A-500	Rare Earth & 'Geo' Elements in 5% HNO3	500 mL

Code	Product	Unit
VHG-SM68-1-100	68 Element Multi Standard 1 in 5% HNO_3 48 Analytes in 5% HNO_3 Al (Aluminum)..... 100 µg/mL As (Arsenic)..... 100 µg/mL Ba (Barium)..... 100 µg/mL Be (Beryllium)..... 100 µg/mL Bi (Bismuth)..... 100 µg/mL B (Boron)..... 100 µg/mL Cd (Cadmium)..... 100 µg/mL Ca(Calcium) ..... 100 µg/mL Ce (Cerium)..... 100 µg/mL Cs (Cesium) ..... 100 µg/mL Cr (Chromium)..... 100 µg/mL Co (Cobalt)..... 100 µg/mL Cu (Copper) ..... 100 µg/mL Dy (Dysprosium)..... 100 µg/mL Er (Erbium)..... 100 µg/mL Eu (Europium) ..... 100 µg/mL Gd (Gadolinium) ..... 100 µg/mL Ga (Gallium) ..... 100 µg/mL Ho (Holmium) ..... 100 µg/mL In (Indium) ..... 100 µg/mL Fe (Iron)..... 100 µg/mL La (Lanthanum) ..... 100 µg/mL Pb (Lead)..... 100 µg/mL Li (Lithium)..... 100 µg/mL Lu (Lutetium) ..... 100 µg/mL Mg (Magnesium)..... 100 µg/mL Mn (Manganese)..... 100 µg/mL Nd (Neodymium)..... 100 µg/mL Ni (Nickel)..... 100 µg/mL P (Phosphorus)..... 100 µg/mL K (Potassium)..... 100 µg/mL Pr (Praseodymium).. 100 µg/mL Re (Rhenium)..... 100 µg/mL Rb (Rubidium)..... 100 µg/mL Sm (Samarium)..... 100 µg/mL Sc (Scandium) ..... 100 µg/mL Se (Selenium) ..... 100 µg/mL Na (Sodium)..... 100 µg/mL Sr (Strontium)..... 100 µg/mL Tb (Terbium) ..... 100 µg/mL Tl (Thallium) ..... 100 µg/mL Th (Thorium) ..... 100 µg/mL Tm (Thulium)..... 100 µg/mL U (Uranium) ..... 100 µg/mL V (Vanadium)..... 100 µg/mL Yb (Ytterbium)..... 100 µg/mL Y (Yttrium)..... 100 µg/mL Zn (Zinc)..... 100 µg/mL	100 mL
VHG-SM70B-100	Common Elements Mix 2 in 5% HNO_3, tr. HF 20 Analytes in 5% HNO_3 with trace HF Al (Aluminum)..... 100 µg/mL B (Boron)..... 100 µg/mL Ca (Calcium) ..... 100 µg/mL Cr (Chromium)..... 100 µg/mL Co (Cobalt)..... 100 µg/mL Cu (Copper) ..... 100 µg/mL Fe (Iron) ..... 100 µg/mL Pb (Lead)..... 100 µg/mL Mg (Magnesium)..... 100 µg/mL Mn (Manganese)..... 100 µg/mL Ni (Nickel)..... 100 µg/mL P (Phosphorus)..... 100 µg/mL K (Potassium)..... 100 µg/mL Si (Silicon) ..... 100 µg/mL Ag (Silver) ..... 100 µg/mL Na (Sodium)..... 100 µg/mL Sn (Tin) ..... 100 µg/mL Ti (Titanium)..... 100 µg/mL V (Vanadium)..... 100 µg/mL Zn (Zinc)..... 100 µg/mL	100 mL
VHG-SM70B-500	Common Elements Mix 2 in 5% HNO_3, tr. HF	500 mL
VHG-SM75B-100	Common & Transition - Multi Concentration in 5% HNO_3/0.2% HF 26 Analytes in 5% HNO_3 and 0.2% HF Al (Aluminum)..... 100 µg/mL Sb (Antimony) ..... 100 µg/mL As (Arsenic)..... 100 µg/mL Ba (Barium)..... 100 µg/mL Be (Beryllium)..... 100 µg/mL Bi (Bismuth)..... 100 µg/mL Cd (Cadmium)..... 100 µg/mL Ca (Calcium) ..... 1000 µg/mL Cr (Chromium)..... 100 µg/mL Co (Cobalt) ..... 100 µg/mL Cu (Copper)..... 100 µg/mL Fe (Iron)..... 100 µg/mL Pb (Lead)..... 100 µg/mL Li (Lithium)..... 100 µg/mL Mg (Magnesium).... 1000 µg/mL Mn (Manganese)..... 100 µg/mL Mo (Molybdenum).... 100 µg/mL Ni (Nickel)..... 100 µg/mL K (Potassium) ..... 1000 µg/mL Se (Selenium) ..... 100 µg/mL Ag (Silver) ..... 100 µg/mL Na (Sodium)..... 1000 µg/mL Sr (Strontium)..... 100 µg/mL Tl (Thallium)..... 100 µg/mL V (Vanadium)..... 100 µg/mL Zn (Zinc)..... 100 µg/mL	100 mL
VHG-SM75B-500	Common & Transition - Multi Concentration in 5% HNO_3,0.2% HF	500 mL
VHG-SM80B-100	Comprehensive Mix A in 40% aq. regia 35 Analytes in dilute Aqua Regia Al (Aluminum)..... 10 µg/mL As (Arsenic)..... 10 µg/mL Ba (Barium)..... 10 µg/mL Bi (Bismuth)..... 10 µg/mL Cd (Cadmium)..... 10 µg/mL Ca (Calcium) ..... 10 µg/mL Ce (Cerium)..... 10 µg/mL Dy (Dysprosium)..... 10 µg/mL Er (Erbium)..... 10 µg/mL Eu (Europium)..... 10 µg/mL Gd (Gadolinium)..... 10 µg/mL Ga (Gallium)..... 10 µg/mL Ho (Holmium) ..... 10 µg/mL La (Lanthanum) ..... 10 µg/mL Pb (Lead)..... 10 µg/mL Lu (Lutetium) ..... 10 µg/mL Mg (Magnesium)..... 10 µg/mL Hg (Mercury)..... 10 µg/mL Nd (Neodymium)..... 10 µg/mL P (Phosphorus)..... 10 µg/mL Pr (Praseodymium)..... 10 µg/mL Rb (Rubidium) ..... 10 µg/mL Sm (Samarium)..... 10 µg/mL Sc (Scandium)..... 10 µg/mL Se (Selenium) ..... 10 µg/mL Ag (Silver) ..... 10 µg/mL Na (Sodium)..... 10 µg/mL Sr (Strontium)..... 10 µg/mL Tb (Terbium) ..... 10 µg/mL Tl (Thallium)..... 10 µg/mL Th (Thorium) ..... 10 µg/mL Tm (Thulium)..... 10 µg/mL U (Uranium) ..... 10 µg/mL Yb (Ytterbium)..... 10 µg/mL Y (Yttrium)..... 10 µg/mL	100 mL
VHG-SM80B-500	Comprehensive Mix A in 40% aq regia	500 mL
VHG-SM90C-100	Comprehensive Mix B in 40% Aq. Regia, tr. HF 32 Analytes in aqua regia (40%) with trace HF Sb (Antimony) ..... 10 µg/mL Be (Beryllium)..... 10 µg/mL B (Boron)..... 10 µg/mL Cr (Chromium)..... 10 µg/mL Co (Cobalt)..... 10 µg/mL Cu (Copper) ..... 10 µg/mL Ge (Germanium) ..... 10 µg/mL Au (Gold)..... 10 µg/mL Hf (Hafnium)..... 10 µg/mL Ir (Iridium)..... 10 µg/mL Fe (Iron) ..... 10 µg/mL Li (Lithium)..... 10 µg/mL Mn (Manganese)..... 10 µg/mL Mo (Molybdenum)..... 10 µg/mL Ni (Nickel)..... 10 µg/mL Nb (Niobium) ..... 10 µg/mL Os (Osmium) ..... 10 µg/mL Pd (Palladium)..... 10 µg/mL Pt (Platinum)..... 10 µg/mL K (Potassium)..... 10 µg/mL Re (Rhenium) ..... 10 µg/mL Rh (Rhodium) ..... 10 µg/mL Ru (Ruthenium)..... 10 µg/mL Si (Silicon)..... 10 µg/mL Ta (Tantalum) ..... 10 µg/mL Te (Tellurium)..... 10 µg/mL Sn (Tin) ..... 10 µg/mL Ti (Titanium)..... 10 µg/mL W (Tungsten) ..... 10 µg/mL V (Vanadium)..... 10 µg/mL Zn (Zinc)..... 10 µg/mL Zr (Zirconium) ..... 10 µg/mL	100 mL
VHG-SM90C-500	Comprehensive Mix B in 40% Aq. Regia, tr. HF	500 mL

Multi-element standards for ICP

Code	Product	Unit
VHG-ISQC20-100	Quality Control Standard 20 (Independent Source) in 5%HNO_3, tr. Tart. Acid 20 elements in 5% HNO_3 with trace F^- and trace Tartaric Acid Al (Aluminum)....10 µg/mL, Co (Cobalt) .... 10 µg/mL, Ag (Silver) ....10 µg/mL Sb (Antimony)....10 µg/mL, Cu (Copper)....10 µg/mL, Th (Thorium) ....10 µg/mL As (Arsenic)....10 µg/mL, Mn (Manganese)....10 µg/mL, Tl (Thallium) ....10 µg/mL Ba (Barium) ....10 µg/mL, Mo (Molybdenum)....10 µg/mL, U (Uranium)....10 µg/mL Be (Beryllium)....10 µg/mL, Pb (Lead)....10 µg/mL, V (Vanadium) ....10 µg/mL Cd (Cadmium)....10 µg/mL, Ni (Nickel) ....10 µg/mL, Zn (Zinc)....10 µg/mL Cr (Chromium)....10 µg/mL, Se (Selenium)....10 µg/mL **Second source:** QC Standard 20 is prepared from independent raw materials relative to any VHG single element or multi-element standard except those designated as second source standards.	100 mL
VHG-ISQC20-500	Quality Control Standard 20 (Independent Source) in 5%HNO_3, tr. Tart. Acid	500 mL
VHG-LMCS1Z-500	Memory & Interference Check Sample in 2% HNO3 10 Analytes in 2% HNO_3 Tuning & Instrument Set-up Solution, EPA Method Standard (AA / ICP / ICPMS) Al (Aluminum)....1000 µg/mL, Fe (Iron)....1000 µg/mL, Na (Sodium)....1000 µg/mL Ca (Calcium) ....1000 µg/mL, Mg (Magnesium)....1000 µg/mL, S (Sulfur)....1000 µg/mL C (Carbon)....5000 µg/mL, P (Phosphorus)....1000 µg/mL Cl (Chlorine) ....5000 µg/mL, K (Potassium) ....1000 µg/mL	500 mL
VHG-QC19-100	Quality Control Standard 19 in 5% HNO_3, tr. F, tr. Tart. acid 19 Analytes in 5% HNO_3 with trace F- and trace Tartaric Acid Independent Reference (QC Check) Standard, EPA Method Standard (AA / ICP / ICPMS) Sb (Antimony)....100 µg/mL, Cu (Copper)....100 µg/mL, Se (Selenium) ....100 µg/mL As (Arsenic)....100 µg/mL, Fe (Iron)....100 µg/mL, Tl (Thallium) ....100 µg/mL Be (Beryllium)....100 µg/mL, Pb (Lead)....100 µg/mL, Ti (Titanium)....100 µg/mL Cd (Cadmium)....100 µg/mL, Mg (Magnesium)....100 µg/mL, V (Vanadium) ....100 µg/mL Ca (Calcium) ....100 µg/mL, Mn (Manganese)....100 µg/mL, Zn (Zinc)....100 µg/mL Cr (Chromium)....100 µg/mL, Mo (Molybdenum)....100 µg/mL Co (Cobalt)....100 µg/mL, Ni (Nickel)....100 µg/mL	100 mL
VHG-QC19-500	Quality Control Standard 19 in 5% HNO_3, tr. F, tr. Tart. acid	500 mL
VHG-QC7-100	Quality Control Standard 7 in 5% HNO_3, tr. F^- 7 Analytes in 5% HNO_3 with trace F^- Independent Reference (QC Check) Standard, EPA Method Standard (AA / ICP / ICPMS) Al (Aluminum)....100 µg/mL, K (Potassium) ....1000 µg/mL, Na (Sodium)....100 µg/mL Ba (Barium)....100 µg/mL, Si (Silicon) ....50 µg/mL B (Boron)....100 µg/mL, Ag (Silver)....100 µg/mL	100 mL
VHG-QC7-500	Quality Control Standard 7 in 5% HNO_3, tr. F^-	500 mL
VHG-QC7A-100	Quality Control Standard 7A in 5% HNO_3, tr. F^- 7 Analytes in 5% HNO_3 with trace F^- Independent Reference (QC Check) Standard, EPA Method Standard (AA / ICP / ICPMS) Al (Aluminum)....100 µg/mL, K (Potassium) ....1000 µg/mL, Na (Sodium)....100 µg/mL Ba (Barium)....100 µg/mL, Si (Selenium) ....500 µg/mL B (Boron)....100 µg/mL, Ag (Silver)....50 µg/mL	100 mL
VHG-QC7A-500	Quality Control Standard 7A in 5% HNO_3, tr. F^-	500 mL
VHG-SM23-100	US EPA 23 Metals in 5% HNO_3, tr. tart, tr HF 23 Analytes in 5% HNO_3 with trace HF and trace Tartaric Acid Al (Aluminum)....100 µg/mL, Co (Cobalt) ....100 µg/mL, K (Potassium)....100 µg/mL Sb (Antimony)....100 µg/mL, Cu (Copper)....100 µg/mL, Se (Selenium) ....100 µg/mL As (Arsenic)....100 µg/mL, Fe (Iron)....100 µg/mL, Ag (Silver) ....100 µg/mL Ba (Barium)....100 µg/mL, Pb (Lead)....100 µg/mL, Na (Sodium)....100 µg/mL Be (Beryllium)....100 µg/mL, Mg (Magnesium)....100 µg/mL, Tl (Thallium) ....100 µg/mL Cd (Cadmium)....100 µg/mL, Mn (Manganese)....100 µg/mL, V (Vanadium) ....100 µg/mL Ca (Calcium) ....100 µg/mL, Mo (Molybdenum)....100 µg/mL, Zn (Zinc)....100 µg/mL Cr (Chromium)....100 µg/mL, Ni (Nickel)....100 µg/mL	100 mL
VHG-SM23-500	US EPA 23 Metals in 5% HNO_3, tr. tart, tr HF	500 mL
VHG-SM45-100	US EPA RCRA Elements in 5% HNO_3 8 Analytes in 5% HNO_3 As (Arsenic)....100 µg/mL, Cr (Chromium)....100 µg/mL, Se (Selenium) ....100 µg/mL Ba (Barium)....100 µg/mL, Pb (Lead)....100 µg/mL, Ag (Silver) ....100 µg/mL Cd (Cadmium)....100 µg/mL, Hg (Mercury)....100 µg/mL	100 mL
VHG-SM45-500	US EPA RCRA Elements in 5% HNO_3	500 mL

Code	Product	Unit
VHG-SSEG1-100	Spiking Solution EG1 in 5% HNO_3, tr. HF, tr. Tart. Acid 19 Analytes in 5% HNO_3 with trace HF and trace Tartaric Acid Spiking Standard, EPA Method Standard (AA / ICP / ICPMS) Al (Aluminum)....100 µg/mL; Co (Cobalt)....20 µg/mL; Se (Selenium)....100 µg/mL Sb (Antimony)....40 µg/mL; Cu (Copper)....40 µg/mL; SiO_2 (Silicon dioxide)200 µg/mL As (Arsenic)....200 µg/mL; Fe (Iron)....100 µg/mL; Ag (Silver)....5 µg/mL Ba (Barium)....200 µg/mL; Pb (Lead)....40 µg/mL; Tl (Thallium)....40 µg/mL Be (Beryllium)....5 µg/mL; Mn (Manganese)....40 µg/mL; V (Vanadium)....40 µg/mL Cd (Cadmium)....5 µg/mL; Mo (Molybdenum)....40 µg/mL; Zn (Zinc)....100 µg/mL Cr (Chromium)....40 µg/mL; Ni (Nickel)....40 µg/mL	100 mL
VHG-SSEG1-500	Spiking Solution EG1 in 5% HNO_3, tr. HF, tr. Tart. Acid	500 mL
VHG-SSEG2-100	Spiking Solution EG2 in 5% HNO_3, tr. HF, tr. Tart. Acid 19 Analytes in 5% HNO_3 with trace HF and trace Tartaric Acid Spiking Standard, EPA Method Standard (AA / ICP / ICPMS) Al (Aluminum)....2000 µg/mL; Co (Cobalt)....100 µg/mL; Se (Selenium)....1000 µg/mL Sb (Antimony)....200 µg/mL; Cu (Copper)....200 µg/mL; Ag (Silver)....25 µg/mL As (Arsenic)....1000 µg/mL; Fe (Iron)....2000 µg/mL; Tl (Thallium)....200 µg/mL Ba (Barium)....1000 µg/mL; Pb (Lead)....200 µg/mL; V (Vanadium)....200 µg/mL Be (Beryllium)....25 µg/mL; Mn (Manganese)....200 µg/mL; Zn (Zinc)....500 µg/mL Cd (Cadmium)....25 µg/mL; Mo (Molybdenum)....200 µg/mL Cr (Chromium)....200 µg/mL; Ni (Nickel)....200 µg/mL	100 mL
VHG-SSEG2-500	Spiking Solution EG2 in 5% HNO_3, tr. HF, tr. Tart. Acid	500 mL
VHG-SSEG3-100	Spiking Solution EG3 in 5% HNO_3 8 Analytes in 5% HNO_3 Spiking Standard, EPA Method Standard (AA / ICP / ICPMS) B (Boron)....1000 µg/mL; Mg (Magnesium)....10,000 µg/mL; Na (Sodium)....10,000 µg/mL Ca (Calcium)....10,000 µg/mL; P (Phosphorus)....1000 µg/mL; Sr (Strontium)....1000 µg/mL Li (Lithium)....1000 µg/mL; K (Potassium)....10,000 µg/mL	100 mL
VHG-SSEG3-500	Spiking Solution EG3 in 5% HNO_3	500 mL
VHG-TCLP1-100	TCLP Standard 1 @ 500µg/mL in 2% HNO_3 7 elements in 2% HNO_3 As (Arsenic)....25 µg/mL; Cr (Chromium)....25 µg/mL; Ag (Silver)....25 µg/mL Ba (Barium)....500 µg/mL; Pb (Lead)....25 µg/mL Cd (Cadmium)....5 µg/mL; Se (Selenium)....5 µg/mL	100 mL
VHG-TCLP1-500	TCLP Standard 1 @ 500µg/mL in 2% HNO_3	500 mL
VHG-LHGN-100	Mercury - Hg @ 10 µg/mL in 5% HNO_3 1 Analyte in 5% HNO_3 Primary Mercury 10 Standard, pair-matched to Second Source Standard VHG-ISHG-100, for use with ECP 6010 and CLP. Hg (Mercury)....10 µg/mL	100 mL
VHG-NWMR2-100	Natural Water Matrix Reference in 1% HNO_3, 1% HCl, tr. HF 28 Analytes in H_2O Metals in water matrix representative of typical natural water sample, certifed by an inter-laboratory study, excellent control sample for environmental testing. Ag....0.005-0.05 µg/mL; Fe....0.05-0.25 µg/mL; Se....0.005-0.05 µg/mL Al....0.05-0.25 µg/mL; K....0.5-3 µg/mL; Sn....0.005-0.05 µg/mL As....0.005-0.05 µg/mL; Mg....1-10 µg/mL; Sr....0.05-0.25 µg/mL Ba....0.05-0.25 µg/mL; Mn....0.005-0.05 µg/mL; Th....0.005-0.05 µg/mL Be....0.005-0.05 µg/mL; Mo....0.005-0.05 µg/mL; Ti....0.005-0.05 µg/mL Ca....10-25 µg/mL; Na....10-25 µg/mL; U....0.005-0.05 µg/mL Cd....0.005-0.05 µg/mL; Ni....0.005-0.05 µg/mL; V....0.005-0.05 µg/mL Co....0.005-0.05 µg/mL; Pb....0.005-0.05 µg/mL; Zn....0.05-0.25 µg/mL Cr....0.005-0.05 µg/mL; Rb....0.005-0.05 µg/mL Cu....0.05-0.25 µg/mL; Sb....0.005-0.05 µg/mL	100 mL
VHG-NWMR2-500	Natural Water Matrix Reference in 1% HNO_3, 1% HCl, tr. HF	500 mL
VHG-QWPHG-15	WP Mercury QC Check Sample (12 months expiry from shipment) 1 Analyte in H_2O Ships in a 15mL vial that yields 1L after dilution. The QC check samples are designed for analyses of water supply and water pollution samples. They are tested in compliance with appropriate US EPA, NIST, NELAC and ISO protocols. Hg....2-30 µg/L	15 mL

Multi-element standards for ICP

Code	Product	Unit
VHG-QWPTM-15	WP Trace Metals (12 months expiry from shipment) 23 Analytes in H_2O Ships in a 15mL vial that yields 1L after dilution. The QC check samples are designed for analyses of water supply and water pollution samples. They are tested in compliance with appropriate US EPA, NIST, NELAC and ISO protocols. Ag 26-600 µg/L; Al 200-4000 µg/L; As 70-900 µg/L; B 800-2000 µg/L; Ba 100-2500 µg/L; Be 8-900 µg/L; Ca 10-25 µg/L; Cd 8-750 µg/L; Co 28-1000 µg/L; Cr 17-1000 µg/L; Cu 40-900 µg/L; Fe 200-4000 µg/L; Mn 70-4000 µg/L; Mo 60-600 µg/L; Na 10-25 µg/L; Ni 80-3000 µg/L; Pb 70-3000 µg/L; Sb 95-900 µg/L; Se 90-2000 µg/L; Sr 30-300 µg/L; Tl 60-900 µg/L; V 55-2000 µg/L; Zn 100-2000 µg/L	2 x 23 mL
VHG-QWSTM-15	WS Trace Metals (12 months expiry from shipment) 19 Analytes in H_2O Ships in a 15mL vial that yields 2L after dilution. The QC check samples are designed for analyses of water supply and water pollution samples. They are tested in compliance with appropriate US EPA, NIST, NELAC and ISO protocols. Ag 20-300 µg/L; Al 130-2500 µg/L; As 5-50 µg/L; B 800-2000 µg/L; Ba 500-3000 µg/L; Be 1-10 µg/L; Ca 10-25 µg/L; Cd 2-50 µg/L; Cr 10-200 µg/L; Cu 50-2000 µg/L; Fe 100-1800 µg/L; Mn 40-900 µg/L; Mo 15-130 µg/L; Na 10-25 µg/L; Ni 10-500 µg/L; Sb 6-50 µg/L; Se 10-100 µg/L; Tl 2-10 µg/L; V 315-2500 µg/L; Zn 400-2500 µg/L	15 mL
VHG-RMS1Z-100	Regmet Standard 1 in 5% HNO_3 22 Analytes in 5% HNO_3 Regulated Inorganics for Canada or for general environmental use. EPA Method Standard (AA / ICP / ICPMS) As (Arsenic) 100 µg/mL; Ba (Barium) 100 µg/mL; Be (Beryllium) 100 µg/mL; B (Boron) 100 µg/mL; Cd (Cadmium) 100 µg/mL; Ca (Calcium) 100 µg/mL; Cr (Chromium) 100 µg/mL; Co (Cobalt) 100 µg/mL; Cu (Copper) 100 µg/mL; Pb (Lead) 100 µg/mL; Mg (Magnesium) 100 µg/mL; Mn (Manganese) 100 µg/mL; Ni (Nickel) 100 µg/mL; P (Phosphorus) 100 µg/mL; Rb (Rubidium) 100 µg/mL; Se (Selenium) 100 µg/mL; Ag (Silver) 100 µg/mL; Sr (Strontium) 100 µg/mL; Tl (Thallium) 100 µg/mL; Th (Thorium) 100 µg/mL; V (Vanadium) 100 µg/mL; Zn (Zinc) 100 µg/mL	100 mL
VHG-RMS2Z-100	Regmet Standard 2 in 20% HCL, tr. HF 11 Analytes in 20% HCl with trace HF Regulated Inorganics for Canada or for general environmental use. EPA Method Standard (AA / ICP / ICPMS) Al (Aluminum) 100 µg/mL; Sb (Antimony) 100 µg/mL; Fe (Iron) 100 µg/mL; Mo (Molybdenum) 100 µg/mL; K (Potassium) 100 µg/mL; Si (Silicon) 100 µg/mL; Na (Sodium) 100 µg/mL; Sn (Tin) 100 µg/mL; Ti (Titanium) 100 µg/mL; U (Uranium) 100 µg/mL; Zr (Zirconium) 100 µg/mL	100 mL
VHG-WPS1-100	Water Pollution Standard 1 in 5% HNO_3 15 Analytes in 5% HNO_3 EPA Method Standard (AA / ICP / ICPMS) Al (Aluminum) 500 µg/mL; As (Arsenic) 100 µg/mL; Be (Beryllium) 100 µg/mL; Cd (Cadmium) 25 µg/mL; Cr (Chromium) 100 µg/mL; Co (Cobalt) 100 µg/mL; Cu (Copper) 100 µg/mL; Fe (Iron) 100 µg/mL; Pb (Lead) 100 µg/mL; Mn (Manganese) 100 µg/mL; Hg (Mercury) 5 µg/mL; Ni (Nickel) 100 µg/mL; Se (Selenium) 25 µg/mL; V (Vanadium) 250 µg/mL; Zn (Zinc) 100 µg/mL	100 mL
VHG-WPS1-500	Water Pollution Standard 1 in 5% HNO_3	500 mL
VHG-WPS3-100	Water Pollution Standard 3 in 2% HNO_3 6 Analytes in 2% HNO_3 EPA Method Standard (AA / ICP / ICPMS) Ba (Barium) 500 µg/mL; Ca (Calcium) 500 µg/mL; Mg (Magnesium) 100 µg/mL; Mo (Molybdenum) 500 µg/mL; K (Potassium) 100 µg/mL; Na (Sodium) 500 µg/mL	100 mL
VHG-WPS3-500	Water Pollution Standard 3 in 2% HNO_3	500 mL
VHG-WPS5-100	Water Pollution Standard 5 in 2% HNO_3 4 Analytes in 5% HNO_3 EPA Method Standard (AA / ICP / ICPMS) Ca (Calcium) 500 µg/mL; Mg (Magnesium) 100 µg/mL; K (Potassium) 100 µg/mL; Na (Sodium) 500 µg/mL	100 mL
VHG-WPS5-500	Water Pollution Standard 5 in 2% HNO_3	500 mL

Code	Product	Unit
VHG-44CS1Y-100	Calibration Standard 1 22 Analytes in 5% HNO_3 Used in USEPA Method 200.7 As (Arsenic)..... 500 µg/mL Ba (Barium)..... 200 µg/mL Be (Beryllium)..... 200 µg/mL B (Boron)..... 200 µg/mL Cd (Cadmium)..... 200 µg/mL Ca (Calcium)..... 1000 µg/mL Ce (Cerium)..... 200 µg/mL Cr (Chromium)..... 200 µg/mL Co (Cobalt)..... 200 µg/mL Cu (Copper)..... 200 µg/mL Pb (Lead)..... 200 µg/mL Mg (Magnesium).... 1000 µg/mL Mn (Manganese)..... 200 µg/mL Ni (Nickel)..... 200 µg/mL P (Phosphorus)..... 1000 µg/mL K (Potassium)..... 1000 µg/mL Se (Selenium)..... 500 µg/mL Ag (Silver)..... 50 µg/mL Sr (Strontium)..... 200 µg/mL Tl (Thallium)..... 500 µg/mL V (Vanadium)..... 200 µg/mL Zn (Zinc)..... 500 µg/mL	100 mL
VHG-44CS1Y-500	Calibration Standard 1 in 5% HNO_3	500 mL
VHG-44CS2Z-100	Calibration Standard 2 9 Analytes in 20% HCl with trace HF Used in USEPA Method 200.7 Al (Aluminum)..... 1000 µg/mL Sb (Antimony)..... 1000 µg/mL Fe (Iron)..... 1000 µg/mL Li (Lithium)..... 500 µg/mL Mo (Molybdenum).. 1000 µg/mL SiO_2 (Silicon dioxide)1000 µg/mL Na (Sodium)..... 1000 µg/mL Sn (Tin)..... 200 µg/mL Ti (Titanium)..... 1000 µg/mL	100 mL
VHG-44CS2Z-500	Calibration Standard 2 in 20% HCL, tr. HF	500 mL
VHG-44QCS1Z-100	200.7 Quality Control Solution 1 23 Analytes in 5% HNO_3 Used in USEPA Method 200.7 As (Arsenic)..... 100 µg/mL Ba (Barium)..... 100 µg/mL Be (Beryllium)..... 100 µg/mL B (Boron)..... 100 µg/mL Cd (Cadmium)..... 100 µg/mL Ca (Calcium)..... 100 µg/mL Ce (Cerium)..... 100 µg/mL Cr (Chromium)..... 100 µg/mL Co (Cobalt)..... 100 µg/mL Cu (Copper)..... 100 µg/mL Pb (Lead)..... 100 µg/mL Mg (Magnesium)..... 100 µg/mL Mn (Manganese)..... 100 µg/mL Hg (Mercury)..... 100 µg/mL Ni (Nickel)..... 100 µg/mL P (Phosphorus)..... 100 µg/mL Se (Selenium)..... 100 µg/mL Ag (Silver)..... 50 µg/mL Sr (Strontium)..... 100 µg/mL Tl (Thallium)..... 100 µg/mL V (Vanadium)..... 100 µg/mL Zn (Zinc)..... 100 µg/mL	100 mL
VHG-44QCS1Z-500	Quality Control Solution 1 in 5% HNO_3	500 mL
VHG-44QCS2Z-100	200.7 Quality Control Solution 2 10 Analytes in 20% HCl with trace HF Used in USEPA Method 200.7 Al (Aluminum)..... 100 µg/mL Sb (Antimony)..... 100 µg/mL Fe (Iron)..... 100 µg/mL Li (Lithium)..... 100 µg/mL Mo (Molybdenum).... 100 µg/mL K (Potassium)..... 100 µg/mL SiO_2 (Silicon dioxide) 100 µg/mL Na (Sodium)..... 100 µg/mL Sn (Tin)..... 100 µg/mL Ti (Titanium)..... 100 µg/mL	100 mL
VHG-44QCS2Z-500	Quality Control Solution 2 in 20% HCL, tr. HF	500 mL
VHG-4ICSAB-100	Interference Check Sample Solution Analytes B in 5%HNO_3, tr. Tart. Acid Sb..... 60 µg/mL As..... 10 µg/mL Ba..... 50 µg/mL Be..... 50 µg/mL Cd..... 100 µg/mL Cr..... 50 µg/mL Co..... 50 µg/mL Cu..... 50 µg/mL Pb..... 5 µg/mL Mn..... 50 µg/mL Ni..... 100 µg/mL Se..... 5 µg/mL Ag..... 20 µg/mL Tl..... 10 µg/mL V..... 50 µg/mL Zn..... 100 µg/mL	100 mL
VHG-CCV1-100	Continuing Calibration Verification Standard 1 in 5% HNO_3 Ba..... 500 µg/mL Be..... 200 µg/mL Cd..... 250 µg/mL Co..... 500 µg/mL Cu..... 500 µg/mL Fe..... 500 µg/mL Pb..... 500 µg/mL Mn..... 500 µg/mL Ni..... 500 µg/mL Ag..... 100 µg/mL Tl..... 500 µg/mL Zn..... 500 µg/mL	100 mL
VHG-CCV1-500	Continuing Calibration Verification Standard 1 in 5% HNO_3	500 mL
VHG-CCV2-100	Continuing Calibration Verification Standard 2 in 20% HCl Al..... 500 µg/mL Sb..... 500 µg/mL As..... 500 µg/mL Ca..... 5000 µg/mL Cr..... 500 µg/mL Mg..... 5000 µg/mL K..... 5000 µg/mL Se..... 500 µg/mL Na..... 5000 µg/mL V..... 500 µg/mL	100 mL
VHG-CCV2-500	Continuing Calibration Verification Standard 2 in 20% HCl	500 mL

Multi-element standards for ICP

Code	Product	Unit
VHG-CRDL-100	Contract Required Detection Limit Solution in 5%HNO_3, tr. Tart. Acid Sb 120 µg/mL, As 20 µg/mL, Be 10 µg/mL, Cd 10 µg/mL, Cr 20 µg/mL, Co 100 µg/mL, Cu 50 µg/mL, Pb 6 µg/mL, Mn 30 µg/mL, Ni 80 µg/mL, Se 10 µg/mL, Ag 20 µg/mL, Tl 20 µg/mL, V 100 µg/mL, Zn 40 µg/mL	100 mL
VHG-CRQL1AES-100	ICP-AES Contract Required Quantitation Limit Solution 1 in 5%HNO_3, tr. Tart. Acid Al 200 µg/mL, Sb 60 µg/mL, As 15 µg/mL, Ba 200 µg/mL, Be 5 µg/mL, Cd 5 µg/mL, Cr 10 µg/mL, Co 50 µg/mL, Cu 25 µg/mL, Fe 100 µg/mL, Pb 10 µg/mL, Mn 15 µg/mL, Ni 40 µg/mL, Se 35 µg/mL, Ag 10 µg/mL, Tl 25 µg/mL, V 50 µg/mL, Zn 60 µg/mL	100 mL
VHG-CRQL2AES-100	Contract Required Quantitation Limit Solution 2 in 5% HNO_3 Ca 5000 µg/ml, Mg 5000 µg/ml, K 5000 µg/ml, Na 5000 µg/ml	100 mL
VHG-CRQL2AES-500	Contract Required Quantitation Limit Solution 2 in 5% HNO_3	500 mL
VHG-HCL-BLK-500	Hydrochloric Acid Blank	500 mL
VHG-HNO_3-BLK-500	5% Nitric Acid Blank	500 mL
VHG-ICB/CCB-500	5% Hydrochloric acid / 1% Nitric acid Blank	500 mL
VHG-ICL1-100	Instrument Calibration Standard 1 11 Analytes in 5% HNO_3 Primary Instrument Calibration Standard 1 that is pair-matched to Second Source Standard VHG-ICV1-100, used in USEPA Method 6010 & CLP. Ba (Barium) 1000 µg/mL, Be (Beryllium) 400 µg/mL, Cd (Cadmium) 500 µg/mL, Co (Cobalt) 1000 µg/mL, Cu (Copper) 1000 µg/mL, Fe (Iron) 1000 µg/mL, Mn (Manganese) 1000 µg/mL, Ni (Nickel) 1000 µg/mL, Ag (Silver) 200 µg/mL, Tl (Thallium) 1000 µg/mL, Zn (Zinc) 1000 µg/mL	100 mL
VHG-ICL1-500	Instrument Calibration Standard 1 in 5% HNO_3	500 mL
VHG-ICL2-100	Instrument Calibration Standard 2 10 Analytes in 20% HCl Primary Instrument Calibration Standard 2, pair-matched to Second Source Standard VHG-ICV2-100, for use with USEPA Method 6010 & CLP. Al (Aluminum) 1000 µg/mL, Sb (Antimony) 1000 µg/mL, As (Arsenic) 1000 µg/mL, Ca (Calcium) 10000 µg/mL, Cr (Chromium) 1000 µg/mL, Mg (Magnesium) 10000 µg/mL, K (Potassium) 10000 µg/mL, Se (Selenium) 1000 µg/mL, Na (Sodium) 10000 µg/mL, V (Vanadium) 1000 µg/mL	100 mL
VHG-ICL2-500	Instrument Calibration Standard 2 in 20% HCl	500 mL
VHG-ICSA-500	Interference Check Sample Solution Interferents A in 20% HCl	500 mL
VHG-ICSAB1-100	Interference Check Sample Solution Analytes sub-B1 in 5% HNO_3 Be 50 µg/mL, Cd 100 µg/mL, Co 50 µg/mL, Cu 50 µg/mL, Pb 100 µg/mL, Mn 50 µg/mL, Ni 100 µg/mL, Ag 100 µg/mL, Zn 100 µg/mL	100 mL
VHG-ICSAB1-500	Interference Check Sample Solution Analytes sub-B1 in 5% HNO_3	500 mL
VHG-ICSAB2-100	Interference Check Sample Solution Analytes sub-B2 in 20% HCl Ba 50 µg/mL, Cr 50 µg/mL, V 50 µg/mL	100 mL
VHG-ICSAB2-500	Interference Check Sample Solution Analytes sub-B2 in 20% HCl	500 mL
VHG-ICV1-100	Initial Calibration Verification Standard 1 11 Analytes in 5% HNO_3 Second Source Initial Calibration Standard 1, pair-matched to Primary Standard VHG-ICL1-100, for use with USEPA Method 6010 & CLP. Ba (Barium) 100 µg/mL, Be (Beryllium) 40 µg/mL, Cd (Cadmium) 50 µg/mL, Co (Cobalt) 100 µg/mL, Cu (Copper) 100 µg/mL, Fe (Iron) 100 µg/mL, Mn (Manganese) 100 µg/mL, Ni (Nickel) 100 µg/mL, Ag (Silver) 20 µg/mL, Tl (Thallium) 100 µg/mL, Zn (Zinc) 100 µg/mL	100 mL
VHG-ICV1-500	Initial Calibration Verification Standard 1 in 5% HNO_3	500 mL
VHG-ICV2-100	Initial Calibration Verification Standard 2 10 Analytes in 20% HCl Secondary Source Initial Calibration Verification Standard 2, pair-matched to Primary Source Standard VHG-ICL2-100, for use with USEPA Method 6101 & CLP. Al (Aluminum) 100 µg/mL, Sb (Antimony) 100 µg/mL, As (Arsenic) 100 µg/mL, Ca (Calcium) 1000 µg/mL, Cr (Chromium) 100 µg/mL, Mg (Magnesium) 1000 µg/mL, K (Potassium) 1000 µg/mL, Se (Selenium) 100 µg/mL, Na (Sodium) 1000 µg/mL, V (Vanadium) 100 µg/mL	100 mL

Code	Product	Unit
VHG-ICV2-500	Initial Calibration Verification Standard 2 in 20% HCl	500 mL
VHG-INT1-100	Interference Check Solution 1 17 Analytes in 5% HNO_3 Used in USEPA Method 200.7 As (Arsenic)..... 1000 µg/mL Ba (Barium)..... 300 µg/mL Be (Beryllium)..... 100 µg/mL Cd (Cadmium)..... 300 µg/mL Cr (Chromium)..... 300 µg/mL Co (Cobalt)..... 300 µg/mL Cu (Copper)..... 300 µg/mL Pb (Lead)..... 1000 µg/mL Mn (Manganese)..... 200 µg/mL Hg (Mercury)..... 50 µg/mL Ni (Nickel)..... 300 µg/mL K (Potassium)..... 20000 µg/mL Se (Selenium)..... 500 µg/mL Ag (Silver)..... 300 µg/mL Tl (Thallium)..... 1000 µg/mL V (Vanadium)..... 300 µg/mL Zn (Zinc)..... 300 µg/mL	100 mL
VHG-INT1-500	Interference Check Solution 1 in 5% HNO_3	500 mL
VHG-INT2-100	Interference Check Solution 2 4 Analytes in 2% HNO_3 with trace HF Used in USEPA Method 200.7 B (Boron)..... 500 µg/mL Mo (Molybdenum)..... 300 µg/mL Si (Silicon)..... 230 µg/mL Ti (Titanium)..... 1000 µg/mL	100 mL
VHG-INT2-500	Interference Check Solution 2 in 2% HNO_3, tr. HF	500 mL
VHG-INT4-100	Interference Check Solution 4 5 Analytes in 5% HNO_3 Used in USEPA Method 200.7 Al (Aluminium)..... 1200 µg/mL Ca (Calcium)..... 6000 µg/mL Fe (Iron)..... 5000 µg/mL Mg (Magnesium)..... 3000 µg/mL Na (Sodium)..... 1000 µg/mL	100 mL
VHG-INT4-500	Interference Check Solution 4 in 5% HNO_3	500 mL
VHG-IPC1Y-100	Instrument Performance Check Standard 1 22 Analytes in 5% HNO_3 Used in USEPA Method 200.7 As (Arsenic)..... 100 µg/mL Ba (Barium)..... 100 µg/mL Be (Beryllium)..... 100 µg/mL B (Boron)..... 100 µg/mL Cd (Cadmium)..... 100 µg/mL Ca (Calcium)..... 100 µg/mL Ce (Cerium)..... 100 µg/mL Cr (Chromium)..... 100 µg/mL Co (Cobalt)..... 100 µg/mL Cu (Copper)..... 100 µg/mL Pb (Lead)..... 100 µg/mL Mg (Magnesium)..... 100 µg/mL Mn (Manganese)..... 100 µg/mL Ni (Nickel)..... 100 µg/mL P (Phosphorus)..... 500 µg/mL K (Potassium)..... 500 µg/mL Se (Selenium)..... 100 µg/mL Ag (Silver)..... 20 µg/mL Sr (Strontium)..... 100 µg/mL Tl (Thallium)..... 100 µg/mL V (Vanadium)..... 100 µg/mL Zn (Zinc)..... 100 µg/mL	100 mL
VHG-IPC1Y-500	Instrument Performance Check Standard 1 in 5% HNO_3	500 mL
VHG-IPC2Y-100	Instrument Performance Check Solution 2 10 Analytes in 20% HCl with trace HF Used in USEPA Method 200.7 Al (Aluminum)..... 100 µg/mL Sb (Antimony)..... 100 µg/mL Fe (Iron)..... 100 µg/mL Li (Lithium)..... 100 µg/mL Hg (Mercury)..... 100 µg/mL Mo (Molybdenum)..... 100 µg/mL SiO_2 (Silicon dioxide) 500 µg/mL Na (Sodium)..... 100 µg/mL Sn (Tin)..... 100 µg/mL Ti (Titanium)..... 100 µg/mL	100 mL
VHG-IPC2Y-500	Instrument Performance Check Solution 2 in 20% HCL, tr. HF	500 mL
VHG-ISHG-100	ICV, CCV Hg Standard in 5% HNO_3	100 mL
VHG-MCS1-100	Mixed Calibration Standard 1 6 Analytes in 2% HNO_3 Used in USEPA Method 200.7 Be (Beryllium)..... 50 µg/mL Cd (Cadmium)..... 150 µg/mL Pb (Lead)..... 500 µg/mL Mn (Manganese)..... 100 µg/mL Se (Selenium)..... 200 µg/mL Zn (Zinc)..... 150 µg/mL	100 mL
VHG-MCS2-100	Mixed Calibration Standard 2 5 Analytes in 5% HNO_3 Used in USEPA Method 200.7 Ba (Barium)..... 100 µg/mL Co (Cobalt)..... 100 µg/mL Cu (Copper)..... 100 µg/mL Fe (Iron)..... 10000 µg/mL V (Vanadium)..... 100 µg/mL	100 mL
VHG-MCS3-100	Mixed Calibration Standard 3 3 Analytes in 2% HNO_3 with trace F^- Used in USEPA Method 200.7 As (Arsenic)..... 500 µg/mL Mo (Molybdenum)..... 100 µg/mL Si (Silicon)..... 100 µg/mL	100 mL
VHG-MCS4-100	Mixed Calibration Standard 4 6 Analytes in 5% HNO_3 Used in USEPA Method 4 Al (Aluminum)..... 200 µg/mL Ca (Calcium)..... 1000 µg/mL Cr (Chromium)..... 20 µg/mL Ni (Nickel)..... 20 µg/mL K (Potassium)..... 400 µg/mL Na (Sodium)..... 200 µg/mL	100 mL

Multi-element standards for ICP

Code	Product	Unit
VHG-MCS5-100	Mixed Calibration Standard 5 5 Analytes in 5% HNO_3 with trace Tartaric acid Used in USEPA Method 200.7 Sb (Antimony)....200 µg/mL; Mg (Magnesium)....1000 µg/mL; Th (Thallium)....200 µg/mL B (Boron)....100 µg/mL; Ag (Silver)....50 µg/mL	100 mL
VHG-PLS-100	US EPA Method 200.7 ICP Plasma Solution 4 Analytes in 5% HNO_3 Used in USEPA Method 200.7 As (Arsenic)....10 µg/mL; Se (Selenium)....10 µg/mL Pb (Lead)....10 µg/mL; Tl (Thallium)....10 µg/mL	100 mL
VHG-PLS-500	US EPA Method 200.7 ICP Plasma Solution @ 10µg/mL in 5% HNO_3	500 mL
VHG-TNG-100	US EPA Method 200.7 ICP Tuning Solution 2 Analytes in 5% HNO_3 Used in USEPA Method 200.7 Cu (Copper)....10 µg/mL; Pb (Lead)....10 µg/mL	100 mL
VHG-TNG-500	US EPA Method 200.7 ICP Tuning Solution @ 10µg/mL in 5% HNO_3	500 mL
VHG-W1-100	CLP Spiking Solution 1 in 5% HNO_3 Be....5 µg/mL; M....50 µg/mL Cd....5 µg/mL; Ni....50 µg/mL Co....50 µg/mL; Ag....5 µg/mL Cu....25 µg/mL; Tl....200 µg/mL Fe....100 µg/mL; Zn....50 µg/mL Pb....50 µg/mL	100 mL
VHG-W1-500	CLP Spiking Solution 1 in 5% HNO_3	500 mL
VHG-W2-100	CLP Spiking Solution 2 in 20% HCl Al....200 µg/mL; Cr....20 µg/mL Sb....50 µg/mL; Se....200 µg/mL As....200 µg/mL; V....50 µg/mL Ba....200 µg/mL	100 mL
VHG-W2-500	CLP Spiking Solution 2 in 20% HCl	500 mL
VHG-LCELL-100	CCT/DRC/Cell Multi-Element Mix 1 in 2% HNO_3 As....100 µg/mL; Fe....100 µg/mL Cr....100 µg/mL; Se....100 µg/mL	100 mL
VHG-LDCAL-100	Detector Calibration Multi-Element Mix in 5% HNO_3 U....5 µg/mL; Co....20 µg/mL Tb....5 µg/mL; Mg....25 µg/mL Y....10 µg/mL; Sc....25 µg/mL In....10 µg/mL; Li....50 µg/mL Ce....10 µg/mL; Be....100 µg/mL Tl....10 µg/mL	100 mL
VHG-LDPA1-100	P/A Tuning Mix 1 in 20% HCl, Tr. HF Tb....2.5 µg/mL; Ti....5.0 µg/mL Y....2.5 µg/mL; Tl....5.0 µg/mL Al....5.0 µg/mL; V....5.0 µg/mL Ba....5.0 µg/mL; U....5.0 µg/mL Bi....5.0 µg/mL; Ge....10 µg/mL Co....5.0 µg/mL; Mg....10 µg/mL Cr....5.0 µg/mL; Mo....10 µg/mL Cu....5.0 µg/mL; Ni....10 µg/mL In....5.0 µg/mL; Pb....10 µg/mL Ir....5.0 µg/mL; Pd....10 µg/mL 6Li....5.0 µg/mL; Ru....10 µg/mL Lu....5.0 µg/mL; Sb....10 µg/mL Mn....5.0 µg/mL; Sn....10 µg/mL Na....5.0 µg/mL; As....20 µg/mL Sc....5.0 µg/mL; Be....20 µg/mL Sr....5.0 µg/mL; Cd....20 µg/mL Th....5.0 µg/mL; Zn....20 µg/mL	100 mL
VHG-LIS1-100	Internal Standard Multi-Element Mix 1 in 5% HNO_3 ^{6}Li....100 µg/mL; In....100 µg/mL Sc....100 µg/mL; Tb....100 µg/mL Ga....100 µg/mL; Bi....100 µg/mL Y....100 µg/mL	100 mL
VHG-LIS2-100	Internal Standard Multi-Element Mix 2 in 2% HNO_3 ^{6}Li....100 µg/mL; In....20 µg/mL Sc....100 µg/mL; Tb....20 µg/mL Ga....20 µg/mL; Bi....20 µg/mL Y....20 µg/mL	100 mL

Code	Product	Unit
VHG-LIS3-100	Internal Standard Multi-Element Mix 3 in 5% HNO_3, tr. HF ^{6}Li 100 µg/mL; Tb 100 µg/mL Sc 100 µg/mL; Lu 100 µg/mL Ge 100 µg/mL; Bi 100 µg/mL In 100 µg/mL	100 mL
VHG-LIS4-100	Internal Standard Multi-Element Mix 4 in 5% HNO_3, tr. HF ^{6}Li 50 µg/mL; ^{115}In 10 µg/mL ^{45}Sc 50 µg/mL; ^{159}Tb 10 µg/mL $^{72,74}Ge$ 25 µg/mL; ^{209}Bi 10 µg/mL ^{125}Te 25 µg/mL	100 mL
VHG-LISA6LI-100	Lithium (6Li) Internal Standard in 2% HNO_3	100 mL
VHG-LISABI-100	Bismuth Internal Standard in 2% HNO_3, Bi @ 10µg/mL	100 mL
VHG-LISACO-100	Cobalt Internal Standard in 2% HNO_3, Cobalt - Co @ 10µg/mL	100 mL
VHG-LISAGE-100	Germanium Internal Standard in 2% HNO_3, tr. HF, Ge @ 10µg/mL	100 mL
VHG-LISAIN-100	Indium Internal Standard in 2% HNO_3, In @ 10µg/mL	100 mL
VHG-LISAIR-100	Iridium Internal Standard-10-100mL in 2% HCl	100 mL
VHG-LISALU-100	Lutetium Internal Standard in 2% HNO_3 @ 10µg/mL	100 mL
VHG-LISAPT-100	Platinum Internal Standard-10-100mL in 5% HCl	100 mL
VHG-LISARH-100	Rhodium Internal Standard in 2% HCl	100 mL
VHG-LISASC-100	Scandium Internal Standard in 2% HNO_3 Sc @10ug/mL	100 mL
VHG-LISATB-100	Terbium Internal Standard in 2% HNO_3 Tb @ 10µg/mL	100 mL
VHG-LISAY-100	Yttrium Internal Standard in 2% HNO_3 Y @ 10µg/mL	100 mL
VHG-LISC6LI-100	Lithium Internal Standard in 2% HNO_3, 6Li @ 100µg/m	100 mL
VHG-LMSTNG1-100	Tuning/Mass Calibration Multi-Element Mix 1 in 5% HNO_3	100 mL
VHG-LMSTNG1-500	Tuning/Mass Calibration Multi-Element Mix 1 in 5% HNO_3	500 mL
VHG-LMSTNG2Z-100	Tuning/Mass Calibration Multi-Element Mix 2 in 1% HNO_3 Be 10 µg/mL; In 10 µg/mL Ce 10 µg/mL; Pb 10 µg/mL Co 10 µg/mL; Mg 10 µg/mL	100 mL
VHG-LMSTNG2Z-500	Tuning/Mass Calibration Multi-Element Mix 2 in 1% HNO_3	500 mL
VHG-LMSTNG3Z-100	Tuning/Mass Calibration Multi-Element Mix 3 in 5% HNO_3 ^{7}Li 10 µg/mL; Ba 10 µg/mL Be 10 µg/mL; Tb 10 µg/mL Mg 10 µg/mL; Pb 10 µg/mL Co 10 µg/mL; Ce 10 µg/mL Y 10 µg/mL; U 10 µg/mL In 10 µg/mL	100 mL
VHG-LMSTNG3Z-500	Tuning/Mass Calibration Multi-Element Mix 3 in 5% HNO_3	500 mL
VHG-LMSTNG5CONC-100	Tuning/Mass Calibration Multi-Element Mix 1A in 1% HNO_3, 0.5% HCl ^{7}Li 10 µg/mL; Ce 10 µg/mL Co 10 µg/mL; Tl 10 µg/mL Y 10 µg/mL	100 mL
VHG-LMSTNG5CONC-500	Tuning/Mass Calibration Multi-Element Mix 1A in 1% HNO_3, 0.5% HCl	500 mL
VHG-LMSTNG5DIL-500	Tuning Solution for Agilent Instruments in 2% HNO_3 ^{7}Li 10 µg/L; Ce 10 µg/L Co 10 µg/L; Tl 10 µg/L Y 10 µg/L	500 mL
VHG-LMSTNG6-500	Tuning Solution for Thermo Instruments in 2% HNO_3 ^{7}Li 10 µg/L; Ba 10 µg/L Be 10 µg/L; Ce 10 µg/L Mg 10 µg/L; Pb 10 µg/L Co 10 µg/L; Bi 10 µg/L In 10 µg/L; U 10 µg/L	500 mL
VHG-LMSTNG7-500	Tuning Solution for PerkinElmer Instruments in 2% HNO_3 ^{7}Li 10 µg/L; Ba 10 µg/L Be 10 µg/L; Ce 10 µg/L Mg 10 µg/L; Tl 10 µg/L Co 10 µg/L; Pb 10 µg/L Y 10 µg/L; Bi 10 µg/L In 10 µg/L; U 10 µg/L	500 mL

Multi-element standards for ICP

Code	Product	Unit
VHG-LMSTNG8-500	Tuning Solution for PerkinElmer DRC Instruments in 2% HNO_3	500 mL

Be	1 µg/L	Ce	1 µg/L
Mg	1 µg/L	Pb	1 µg/L
Fe	1 µg/L	Th	1 µg/L
Co	1 µg/L	U	1 µg/L
In	1 µg/L	Ba	10 µg/L

VHG-LMSTNG9-500	Tuning Solution for Varian Instruments in 2% HNO_3		500 mL
Be	250 µg/L	Ce	250 µg/L
Mg	250 µg/L	Tl	250 µg/L
Co	250 µg/L	Pb	250 µg/L
In	250 µg/L	Th	250 µg/L
Ba	250 µg/L	U	250 µg/L
VHG-LOD-100	Oxide & Doubly Charged Ion Test Mix in 2% HNO_3		100 mL
Ba	1 µg/mL	Ce	1 µg/mL
VHG-LSAU-100	Gold Stabilizer for Hg in 5% HCl, Au @100µg/ml		100 mL
VHG-52SS3Z-100	Environmental ICP-MS Spiking Solution 1 in 5%HNO_3, tr. Tart. Acid		100 mL
As	10 µg/mL	Ni	10 µg/mL
Ba	50 µg/mL	Se	10 µg/mL
Be	2 µg/mL	Ag	2 µg/mL
Cd	2 µg/mL	Sr	50 µg/mL
Cr	10 µg/mL	Tl	2 µg/mL
Co	2 µg/mL	Ti	10 µg/mL
Cu	10 µg/mL	U	2 µg/mL
Pb	10 µg/mL	V	2 µg/mL
Mn	10 µg/mL	Zn	50 µg/mL
Mo	10 µg/mL		
VHG-52SS3Z-500	Environmental ICP-MS Spiking Solution 1 in 5%HNO_3, tr. Tart. Acid		500 mL
VHG-CRQL1MS-100	ICP-MS Contract Required Quantitation Limit Solution 1 in 5%HNO_3, tr. Tart. Acid		100 mL
Al	300 µg/mL	Pb	10 µg/mL
Sb	20 µg/mL	Mn	5 µg/mL
As	10 µg/mL	Ni	10 µg/mL
Ba	100 µg/mL	Se	50 µg/mL
Be	10 µg/mL	Ag	10 µg/mL
Cd	10 µg/mL	Tl	10 µg/mL
Cr	20 µg/mL	V	10 µg/mL
Co	5 µg/mL	Zn	10 µg/mL
Cu	20 µg/mL		
VHG-CRQL2MS-100	Contract Required Detection Limits CRQL Solution 2 in 5%HNO_3, tr. Tart. Acid		100 mL
Ag	10 µg/L	Pb	10 µg/L
As	10 µg/L	Mn	10 µg/L
Ba	100 µg/L	Ni	10 µg/L
Be	10 µg/L	Sb	20 µg/L
Cd	10 µg/L	Se	50 µg/L
Cr	20 µg/L	Tl	10 µg/L
Co	10 µg/L	V	10 µg/L
Cu	20 µg/L	Zn	20 µg/L
VHG-L2008CS1-100	200.8 Stock Calibration Standard CS1 in 5% HNO_3/tr. Tartaric Acid		100 mL
Al – Aluminum	10 µg/mL	Mn – Manganese	10 µg/mL
Sb – Antimony	10 µg/mL	Mo – Molybdenum	10 µg/mL
As – Arsenic	10 µg/mL	Ni – Nickel	10 µg/mL
Be – Beryllium	10 µg/mL	Se – Selenium	10 µg/mL
Cd – Cadmium	10 µg/mL	Tl – Thallium	10 µg/mL
Cr – Chromium	10 µg/mL	Th – Thorium	10 µg/mL
Co – Cobalt	10 µg/mL	U – Uranium	10 µg/mL
Pb – Lead	10 µg/mL	V – Vanadium	10 µg/mL
VHG-L2008CS2-100	200.8 Stock Calibration Standard CS2 in 2% HNO_3		100 mL
Ba – Barium	100 µg/mL	Ag – Silver	10 µg/mL
Cu – Copper	100 µg/mL	Zn – Zinc	100 µg/mL
Fe – Iron	100 µg/mL		
VHG-L2008CS3-100	200.8 Stock Calibration Standard CS-3 in 2% HNO_3		100 mL
Ca – Calcium	10000 µg/mL	K – Potassium	1000 µg/mL
Mg – Magnesium	1000 µg/mL	Na – Sodium	10000 µg/mL
VHG-L53SSA1-100	10ug/mL Al, Sb, As, Be, Cd, Cr, Co, Cu, Pb, Mn, Mo, Ni, Se, Tl, Th, U, V, Zn		100 mL
Al – Aluminum	10 µg/mL	Mn – Manganese	10 µg/mL
Sb – Antimony	10 µg/mL	Mo – Molybdenum	10 µg/mL
As – Arsenic	10 µg/mL	Ni – Nickel	10 µg/mL
Be – Beryllium	10 µg/mL	Se – Selenium	10 µg/mL
Cd – Cadmium	10 µg/mL	Tl – Thallium	10 µg/mL
Cr – Chromium	10 µg/mL	Th – Thorium	10 µg/mL
Co – Cobalt	10 µg/mL	U – Uranium	10 µg/mL
Cu – Copper	10 µg/mL	V – Vanadium	10 µg/mL
Pb – Lead	10 µg/mL	Zn – Zinc	10 µg/mL

Code	Product	Unit
VHG-L54SSA2-100	Standard A2 in 5%HNO_3, tr. Tart. Acid	100 mL

Al – Aluminum	10 µg/mL	Mn – Manganese	10 µg/mL
Sb – Antimony	10 µg/mL	Mo – Molybdenum	10 µg/mL
As – Arsenic	10 µg/mL	Ni – Nickel	10 µg/mL
Be – Beryllium	10 µg/mL	Se – Selenium	50 µg/mL
Cd – Cadmium	10 µg/mL	Tl – Thallium	10 µg/mL
Cr – Chromium	10 µg/mL	Th – Thorium	10 µg/mL
Co – Cobalt	10 µg/mL	U – Uranium	10 µg/mL
Cu – Copper	10 µg/mL	V – Vanadium	10 µg/mL
Pb – Lead	10 µg/mL	Zn – Zinc	10 µg/mL

VHG-LCAL1A-100	Environmental Calibration Standard Blend A in 5% HNO_3, tr. Tart, tr. HF		100 mL
Al – Aluminum	10 µg/mL	Mn – Manganese	10 µg/mL
Sb – Antimony	10 µg/mL	Mo – Molybdenum	10 µg/mL
As – Arsenic	10 µg/mL	Ni – Nickel	10 µg/mL
Ba – Barium	10 µg/mL	K – Potassium	1000 µg/mL
Be – Beryllium	10 µg/mL	Se – Selenium	10 µg/mL
Cd – Cadmium	10 µg/mL	Ag – Silver	10 µg/mL
Ca – Calcium	1000 µg/mL	Na – Sodium	1000 µg/mL
Cr – Chromium	10 µg/mL	Sr – Strontium	10 µg/mL
Co – Cobalt	10 µg/mL	Tl – Thallium	10 µg/mL
Cu – Copper	10 µg/mL	Th – Thorium	10 µg/mL
Fe – Iron	1000 µg/mL	U – Uranium	10 µg/mL
Pb – Lead	10 µg/mL	V – Vanadium	10 µg/mL
Mg – Magnesium	1000 µg/mL	Zn – Zinc	10 µg/mL

VHG-LCAL6020-100	Calibration Standard for 6020 in 2% HNO_3, tr. Tart		100 mL
Al – Aluminum	10 µg/mL	Pb – Lead	10 µg/mL
Sb – Antimony	10 µg/mL	Mg – Magnesium	10 µg/mL
As – Arsenic	10 µg/mL	Mn – Manganese	10 µg/mL
Ba – Barium	10 µg/mL	Ni – Nickel	10 µg/mL
Be – Beryllium	10 µg/mL	K – Potassium	10 µg/mL
Cd – Cadmium	10 µg/mL	Se – Selenium	10 µg/mL
Ca – Calcium	10 µg/mL	Ag – Silver	10 µg/mL
Cr – Chromium	10 µg/mL	Na – Sodium	10 µg/mL
Co – Cobalt	10 µg/mL	Tl – Thallium	10 µg/mL
Cu – Copper	10 µg/mL	V – Vanadium	10 µg/mL
Fe – Iron	10 µg/mL	Zn – Zinc	10 µg/mL

VHG-LICSA1Z-500	Interference Check Sample A Mix 1 in 5% HNO_3		500 mL
Al – Aluminum	500 µg/mL	Mg – Magnesium	500 µg/mL
Ca – Calcium	500 µg/mL	P – Phosphorus	500 µg/mL
C – Carbon	1000 µg/mL	K – Potassium	500 µg/mL
Cl – Chlorine	5000 µg/mL	Na – Sodium	500 µg/mL
Fe – Iron	500 µg/mL	S – Sulfur	500 µg/mL

VHG-LICSA2-500	Interference Check Sample A Mix 2 in H_2O, tr. HF		500 mL
Mo – Molybdenum	10	Ti – Titanium	10

VHG-LICSB1-100	Interference Check Sample B Mix 1 in 5% HNO_3		100 mL
Al – Aluminum	10 µg/mL	Mn – Manganese	10 µg/mL
As – Arsenic	10 µg/mL	Ni – Nickel	10 µg/mL
Cd – Cadmium	10 µg/mL	Se – Selenium	10 µg/mL
Cr – Chromium	10 µg/mL	Ag – Silver	10 µg/mL
Co – Cobalt	10 µg/mL	V – Vanadium	10 µg/mL
Cu – Copper	10 µg/mL	Zn – Zinc	10 µg/mL

VHG-LICSB2Z-100	Interference Check Sample Target Analytes B in 5%HNO_3, tr. Tart. Acid		100 mL
Al – Aluminum	10 µg/mL	Pb – Lead	10 µg/mL
Sb – Antimony	10 µg/mL	Mn – Manganese	10 µg/mL
As – Arsenic	10 µg/mL	Ni – Nickel	10 µg/mL
Ba – Barium	10 µg/mL	Se – Selenium	10 µg/mL
Be – Beryllium	10 µg/mL	Ag – Silver	10 µg/mL
Cd – Cadmium	10 µg/mL	Tl – Thallium	10 µg/mL
Cr – Chromium	10 µg/mL	V – Vanadium	10 µg/mL
Co – Cobalt	10 µg/mL	Zn – Zinc	10 µg/mL
Cu – Copper	10 µg/mL		

VHG-LICV1A-100	Environmental ICV Standard Blend A in 5% HNO_3, tr. Tartaric, tr. HF		100 mL
Al – Aluminum	10 µg/mL	Mn – Manganese	10 µg/mL
Sb – Antimony	10 µg/mL	Mo – Molybdenum	10 µg/mL
As – Arsenic	10 µg/mL	Ni – Nickel	10 µg/mL
Ba – Barium	10 µg/mL	K – Potassium	1000 µg/mL
Be – Beryllium	10 µg/mL	Se – Selenium	10 µg/mL
Cd – Cadmium	10 µg/mL	Ag – Silver	10 µg/mL
Ca – Calcium	1000 µg/mL	Na – Sodium	1000 µg/mL
Cr – Chromium	10 µg/mL	Sr – Strontium	10 µg/mL
Co – Cobalt	10 µg/mL	Tl – Thallium	10 µg/mL
Cu – Copper	10 µg/mL	Th – Thorium	10 µg/mL
Fe – Iron	1000 µg/mL	U – Uranium	10 µg/mL
Pb – Lead	10 µg/mL	V – Vanadium	10 µg/mL
Mg – Magnesium	1000 µg/mL	Zn – Zinc	10 µg/mL

Multi-element standards for ICP

Code	Product	Unit
VHG-LINTA6020A-500	6020A Interference Check Sample A in 2% HNO_3, tr. HF Al – Aluminum ..... 1000 µg/mL Ca – Calcium ..... 3000 µg/mL C – Carbon ..... 2000 µg/mL Cl – Chlorine ..... 20,000 µg/mL Fe – Iron ..... 2500 µg/mL Mg – Magnesium ..... 1000 µg/mL Mo – Molybdenum ..... 20 µg/mL P – Phosphorus ..... 1000 µg/mL K – Potassium ..... 1000 µg/mL Na – Sodium ..... 2500 µg/mL S – Sulfur ..... 1000 µg/mL Ti – Titanium ..... 20 µg/mL	500 mL
VHG-LINTB6020-100	6020A Interference Check Sample B in 2% HNO_3 As – Arsenic ..... 10 µg/mL Cd – Cadmium ..... 10 µg/mL Cr – Chromium ..... 20 µg/mL Co – Cobalt ..... 20 µg/mL Cu – Copper ..... 20 µg/mL Mn – Manganese ..... 20 µg/mL Ni – Nickel ..... 20 µg/mL Se – Selenium ..... 10 µg/mL Ag – Silver ..... 5 µg/mL V – Vanadium ..... 20 µg/mL Zn – Zinc ..... 10 µg/mL	100 mL
VHG-LIS2008Z-100	Internal Standard Stock Solution for Methods 200.8 & CLP ILM05.2: 6Li, Sc, Y, In, Tb, Lu, Bi @ 10 µg/mL Bi – Bismuth ..... 10 µg/mL In – Indium ..... 10 µg/mL ^{6}Li – Lithium ..... 10 µg/mL Lu – Lutetium ..... 10 µg/mL Sc – Scandium ..... 10 µg/mL Tb – Terbium ..... 10 µg/mL Y – Yttrium ..... 10 µg/mL	100 mL
VHG-LIS6020-100	Internal Standard Solution 6020 in 2% HNO_3 Bi – Bismuth ..... 10 µg/mL Ho – Holmium ..... 10 µg/mL In – Indium ..... 10 µg/mL Li – Lithium ..... 10 µg/mL Sc – Scandium ..... 10 µg/mL Tb – Terbium ..... 10 µg/mL Y – Yttrium ..... 10 µg/mL	100 mL
VHG-LMES-100	Major Elements Standard in 5% HNO_3	100 mL
VHG-LMES-500	Major Elements Standard in 5% HNO_3	500 mL
VHG-LSSB-100	Calibration Standard B in 1% HNO_3, 10ug/mL Ba, Ag	100 mL
VHG-LTS2008D-100	Tune & Resolution Solution 1 in 5% HNO_3 Be - Beryllium ..... 10 µg/mL Co – Cobalt ..... 10 µg/mL In – Indium ..... 10 µg/mL Pb – Lead ..... 10 µg/mL Mg – Magnesium ..... 10 µg/mL	100 mL
VHG-LTS6020D-100	Tune & Resolution Solution 6020 in 5% HNO_3 Co – Cobalt ..... 10 µg/mL In – Indium ..... 10 µg/mL Li – Lithium ..... 10 µg/mL Tl – Thallium ..... 10 µg/mL	100 mL
VHG-ISQC21-100	Quality Control Standard 21 (Independent Source) in 5% HNO_3, tr. F, tr. Tart. acid 21 Analytes in 5% HNO_3 with trace F^- and trace Tartaric Acid Second Source Standard that is pair-matched to Primary Source Standard VHG-QC21-100. Sb (Antimony) ..... 100 µg/mL As (Arsenic) ..... 100 µg/mL Be (Beryllium) ..... 100 µg/mL Cd (Cadmium) ..... 100 µg/mL Ca (Calcium) ..... 100 µg/mL Cr (Chromium) ..... 100 µg/mL Co (Cobalt) ..... 100 µg/mL Cu (Copper) ..... 100 µg/mL Fe (Iron) ..... 100 µg/mL Pb (Lead) ..... 100 µg/mL Li (Lithium) ..... 100 µg/mL Mg (Magnesium) ..... 100 µg/mL Mn (Manganese) ..... 100 µg/mL Mo (Molybdenum) ..... 100 µg/mL Ni (Nickel) ..... 100 µg/mL Se (Selenium) ..... 100 µg/mL Sr (Strontium) ..... 100 µg/mL Tl (Thallium) ..... 100 µg/mL Ti (Titanium) ..... 100 µg/mL V (Vanadium) ..... 100 µg/mL Zn (Zinc) ..... 100 µg/mL	100 mL
VHG-ISQC21-500	QC Standard 21 (Independent Source) in 5% HNO_3, tr. F, tr. Tart. acid	500 mL
VHG-L2008SQC1-100	200.8 Stock Calibration Standard SQC1 in 5% HNO_3/tr. Tartaric Acid Al – Aluminum ..... 10 µg/mL Sb – Antimony ..... 10 µg/mL As – Arsenic ..... 10 µg/mL Be – Beryllium ..... 10 µg/mL Cd – Cadmium ..... 10 µg/mL Cr – Chromium ..... 10 µg/mL Co – Cobalt ..... 10 µg/mL Pb – Lead ..... 10 µg/mL Mn – Manganese ..... 10 µg/mL Mo – Molybdenum ..... 10 µg/mL Ni – Nickel ..... 10 µg/mL Se – Selenium ..... 10 µg/mL Tl – Thallium ..... 10 µg/mL Th – Thorium ..... 10 µg/mL U – Uranium ..... 10 µg/mL V – Vanadium ..... 10 µg/mL	100 mL
VHG-L2008SQC2-100	2008. Stock Calibration Standard SQC2 in 2% HNO_3 Ba – Barium ..... 100 µg/mL Cu – Copper ..... 100 µg/mL Fe – Iron ..... 100 µg/mL Ag – Silver ..... 10 µg/mL Zn – Zinc ..... 100 µg/mL	100 mL
VHG-L2008SQC3-100	200.8 Stock Calibration Standard SQC3 in 2% HNO_3 Ca – Calcium ..... 10000 µg/mL Mg – Magnesium ..... 1000 µg/mL K – Potassium ..... 1000 µg/mL Na – Sodium ..... 10000 µg/mL	100 mL
VHG-LICVMES-100	6020 SS-High Level Elements ICV Stock in 5% HNO_3 Ca – Calcium ..... 2000 µg/mL Fe – Iron ..... 2000 µg/mL Mg – Magnesium ..... 2000 µg/mL K – Potassium ..... 2000 µg/mL Na – Sodium ..... 2000 µg/mL	100 mL
VHG-LICVMES-500	6020 SS-High Level Elements ICV Stock in 5% HNO_3	500 mL

Code	Product	Unit
VHG-QC21-100	Quality Control Standard 21 in 5% HNO_3, tr. F, tr. Tart. acid 21 Analytes in 5% HNO_3 with trace F^- and trace Tartaric Acid Primary Quality Control Standard that is pair-matched to Second Source Standard VHG-ISQC21-100. Independent Reference (QC Check) Standard, EPA Method Standard (AA / ICP / ICPMS). Sb (Antimony) ..... 100 µg/mL; Cu (Copper) ..... 100 µg/mL; Ni (Nickel) ..... 100 µg/mL As (Arsenic) ..... 100 µg/mL; Fe (Iron) ..... 100 µg/mL; Se (Selenium) ..... 100 µg/mL Be (Beryllium) ..... 100 µg/mL; Pb (Lead) ..... 100 µg/mL; Sr (Strontium) ..... 100 µg/mL Cd (Cadmium) ..... 100 µg/mL; Li (Lithium) ..... 100 µg/mL; Tl (Thallium) ..... 100 µg/mL Ca (Calcium) ..... 100 µg/mL; Mg (Magnesium) ..... 100 µg/mL; Ti (Titanium) ..... 100 µg/mL Cr (Chromium) ..... 100 µg/mL; Mn (Manganese) ..... 100 µg/mL; V (Vanadium) ..... 100 µg/mL Co (Cobalt) ..... 100 µg/mL; Mo (Molybdenum) ..... 100 µg/mL; Zn (Zinc) ..... 100 µg/mL	100 mL
VHG-QC21-500	Quality Control Standard 21 in 5% HNO_3, tr. F, tr. Tart. acid	500 mL
VHG-LMSTNG101-500	Tuning Solution for Agilent 7500cs in 2% HNO_3 Ce ..... 1 µg/L; Mg ..... 1 µg/L Co ..... 1 µg/L; Tl ..... 1 µg/L Li ..... 1 µg/L; Y ..... 1 µg/L	500 mL
VHG-MISA1-100	MISA Standard 1 in H_2O/tr. HF Ge – Germanium ..... 100 µg/mL; Ta – Tantalum ..... 100 µg/mL Hf – Hafnium ..... 100 µg/mL; Ti – Titanium ..... 100 µg/mL Mo – Molybdenum ..... 100 µg/mL; W – Tungsten ..... 100 µg/mL Nb – Niobium ..... 100 µg/mL; Zr – Zirconium ..... 100 µg/mL Si – Silicon ..... 100 µg/mL	100 mL
VHG-MISA1-500	MISA Standard 1 in H_2O/tr. HF	500 mL
VHG-MISA2-100	MISA Standard 2 in 20% HCl Au – Gold ..... 100 µg/mL; Pt – Platinum ..... 100 µg/mL Ir – Iridium ..... 100 µg/mL; Re – Rhenium ..... 100 µg/mL Os – Osmium ..... 100 µg/mL; Rh – Rhodium ..... 100 µg/mL Pd – Palladium ..... 100 µg/mL; Ru – Ruthenium ..... 100 µg/mL	100 mL
VHG-MISA2-500	MISA Standard 2 in 20% HCl	500 mL
VHG-MISA3-100	MISA Standard 3 in 20% HCl Sb – Antimony ..... 100 µg/mL; Sn – Tin ..... 100 µg/mL Te – Tellurium ..... 100 µg/mL	100 mL
VHG-MISA3-500	MISA Standard 3 in 20% HCl	500 mL
VHG-MISA4-100	MISA Standard 4 in 10% HNO_3 As – Arsenic ..... 100 µg/mL; Re – Rhenium ..... 100 µg/mL Be – Beryllium ..... 100 µg/mL; Se – Selenium ..... 100 µg/mL Bi – Bismuth ..... 100 µg/mL; S – Sulfur ..... 100 µg/mL Hg – Mercury ..... 100 µg/mL	100 mL
VHG-MISA4-500	MISA Standard 4 in 10% HNO_3	500 mL
VHG-MISA5-100	MISA Standard 5 in 2% HNO_3 Ce – Cerium ..... 100 µg/mL; Pr – Praseodymium ..... 100 µg/mL Dy – Dysprosium ..... 100 µg/mL; Sm – Samarium ..... 100 µg/mL Er – Erbium ..... 100 µg/mL; Sc – Scandium ..... 100 µg/mL Eu – Europium ..... 100 µg/mL; Tb – Terbium ..... 100 µg/mL Gd – Gadolinium ..... 100 µg/mL; Th – Thorium ..... 100 µg/mL Ho – Holmium ..... 100 µg/mL; Tm – Thulium ..... 100 µg/mL La – Lanthanum ..... 100 µg/mL; Yb – Ytterbium ..... 100 µg/mL Lu – Lutetium ..... 100 µg/mL; Y – Yttrium ..... 100 µg/mL Nd – Neodymium ..... 100 µg/mL	100 mL
VHG-MISA5-500	MISA Standard 5 in 2% HNO_3	500 mL
VHG-MISA6-100	MISA Standard 6 in 2% HNO_3 Al – Aluminum ..... 100 µg/mL; Mg – Magnesium ..... 100 µg/mL Ba – Barium ..... 100 µg/mL; Mn – Manganese ..... 100 µg/mL B – Boron ..... 100 µg/mL; Ni – Nickel ..... 100 µg/mL Cd – Cadmium ..... 100 µg/mL; P – Phosphorus ..... 100 µg/mL Ca – Calcium ..... 100 µg/mL; K – Potassium ..... 100 µg/mL Cs – Cesium ..... 100 µg/mL; Rb – Rubidium ..... 100 µg/mL Cr – Chromium ..... 100 µg/mL; Ag – Silver ..... 100 µg/mL Co – Cobalt ..... 100 µg/mL; Na – Sodium ..... 100 µg/mL Cu – Copper ..... 100 µg/mL; Sr – Strontium ..... 100 µg/mL Ga – Gallium ..... 100 µg/mL; Tl – Thallium ..... 100 µg/mL In – Indium ..... 100 µg/mL; U – Uranium ..... 100 µg/mL Fe – Iron ..... 100 µg/mL; V – Vanadium ..... 100 µg/mL Pb – Lead ..... 100 µg/mL; Zn – Zinc ..... 100 µg/mL Li – Lithium ..... 100 µg/mL	100 mL
VHG-MISA6-500	MISA Standard 6 in 2% HNO_3	500 mL

Physical property standards

Thermal properties

Melting, freezing and triple points

Code	Product	Unit
ERM-FC021	Carbazole - Melting point Certified values Thermodynamic melting point (0.2 °C/min heating rate): Liquefaction point ..... 245.41 °C	0.25 g
ERM-FC022	2-Chloroanthraquinone - Melting point Certified values Thermodynamic melting point (0.2 °C/min heating rate): Liquefaction point 209.73 °C	0.25 g
ERM-FC023	Anisic acid - Melting point Certified values Thermodynamic melting point (0.2 °C/min heating rate): Liquefaction point 183.50 °C	0.25 g
ERM-FC024	Diphenylacetic acid - Melting point Certified values Thermodynamic melting point (0.2 °C/min heating rate): Liquefaction point 147.26 °C	0.25 g
ERM-FC025	Benzoic acid - Melting Point Certified values Thermodynamic melting point (0.2 °C/min heating rate): Liquefaction point 122.36 °C	0.25 g
ERM-FC026	Acetanilide - Melting point Certified values Thermodynamic melting point (0.2 °C/min heating rate): Liquefaction point 114.19 °C	0.25 g
ERM-FC027	Benzil - Melting Point Certified values Thermodynamic melting point (0.2 °C/min heating rate): Liquefaction point 94.90 °C	0.25 g
ERM-FC028	Naphthalene - Melting point Certified values Thermodynamic melting point (0.2 °C/min heating rate): Liquefaction point 80.34 °C	0.25 g
ERM-FC029	4-Nitrotoluene - Melting Point Certified values Thermodynamic melting point (0.2 °C/min heating rate): Liquefaction point 51.66 °C	0.25 g
ERM-FC030	Phenyl salicylate - Melting point Certified values Thermodynamic melting point (0.2 °C/min heating rate): Liquefaction point ..... 41.82 °C	250 mg
NCS AS93104B	1,6-Adipic acid - Melting point (NIM-GBW13234B) Certified melting point..... 151.62 °C	2 g
NCS AS93105A	Anisic acid - Melting point Certified melting point..... 183.28 °C	2 g
NCS AS93107B	p-Nitrobenzoic acid - Melting point (NIM-GBW13237B) Certified melting point..... 239.58 °C	2 g
NCS AS93108C	Anthraquinone - Melting point Certified melting point..... 284.62 °C	2 g

Particles and surface properties

Particle size

Code	Product	Unit

Code	Product	Unit
ERM-FD304	Colloidal silica in water - Particle size (+18) ERM-FD304 consists of colloidal silica nanoparticles suspended in a water-based solution. It is available in 10 mL pre–scored amber glass ampoules containing approximately 9 mL of suspension. Besides NaOH to establish the pH values, minor amounts (<0.1 g/kg) of Cl^- and SO_4^{2-} are present in the suspension. Certified value (nm) / Uncertainty (nm) Scattering intensity-weighted harmonic mean diameter ..... 42.1 ..... 0.6 Extinction intensity-based modal Stokes diameter ..... 33.0 ..... 3.0 Number based modal diameter: 27.8 ± 1.5 nm (indicative value) zeta-Potential: -48mV pH: 8.8	Amp.

Optical properties

Molecular absorption and luminescence

Sets

Code	Product	Unit
U-US-WAT042885	UV/Visible Absorbance Det Wavelength Accuracy Cal Solution Erbium Perchlorate 10g/L in Water (HPLC grade)	10 mL

Refractive index

REABS00	Sucrose (Brix) Standard - 0 %	15 mL
REABS05	Sucrose (Brix) Standard - 5 %	15 mL
REABS07	Sucrose (Brix) Standard - 7 %	15 mL
REABS10	Sucrose (Brix) Standard - 10 %	15 mL
REABS112	Sucrose (Brix) Standard - 11.2 %	15 mL
REABS115	Sucrose (Brix) Standard - 11.5 %	15 mL
REABS12	Sucrose (Brix) Standard - 12 %	15 mL
REABS125	Sucrose (Brix) Standard - 12.5 %	15 mL
REABS15	Sucrose (Brix) Standard - 15 %	15 mL
REABS20	Sucrose (Brix) Standard - 20 %	15 mL
REABS25	Sucrose (Brix) Standard - 25 %	15 mL
REABS30	Sucrose (Brix) Standard - 30 %	15 mL
REABS35	Sucrose (Brix) Standard - 35 %	15 mL
REABS40	Sucrose (Brix) Standard - 40 %	15 mL
REABS45	Sucrose (Brix) Standard - 45 %	15 mL
REABS50	Sucrose (Brix) Standard - 50 %	15 mL
REABS55	Sucrose (Brix) Standard - 55 %	15 mL
REABS60	Sucrose (Brix) Standard - 60 %	15 mL

Colour measurement

REAHAZ0	Hazen Colour Standard 0 Hazen units	1 L
REAHAZ10	Hazen Colour Standard 10 Hazen units	1 L
REAHAZ100	Hazen Colour Standard 100 Hazen units	1 L
REAHAZ20	Hazen colour standard 10 Hazen units	1 L
REAHAZ25	Hazen Colour Standard 25 Hazen units	1 L
REAHAZ250	Hazen Colour Standard 250 Hazen units	1 L
REAHAZ40	Hazen Colour Standard 40 Hazen units	1 L
REAHAZ50	Hazen Colour Standard 50 Hazen units	1 L
REAHAZ80	Hazen Colour Standard 80 Hazen units	1 L

Ion activity

Electrolytic conductivity

Code	Product	Unit
U-IBF-500	Conductivity/TDS Standard 50 µmhos/cm at 25 °C, 23.6 ppm TDS as NaCl Conductivity..... 50 µmhos/cm Total dissolved solids (as NaCl) .....23.6 ppm	500 mL
U-IBF-500-L	Conductivity/TDS Standard 50 µmhos/cm at 25 °C, 240 ppm TDS as NaCl	1 L
U-IBF-501	Conductivity/TDS Standard 100 µmhos/cm at 25 °C, 47.2 ppm TDS as NaCl Conductivity..... 100 µmhos/cm Total dissolved solids (as NaCl) .....47.2 ppm	500 mL
U-IBF-501-L	Conductivity/TDS Standard 100 µmhos/cm at 25 °C, 47.2 ppm TDS as NaCl	1 L
U-IBF-502	Conductivity/TDS Standard 200 µmhos/cm at 25 °C, 95 ppm TDS as NaCl Conductivity..... 200 µmhos/cm Total dissolved solids (as NaCl) .....95 ppm	500 mL
U-IBF-502-L	Conductivity/TDS Standard 200 µmhos/cm at 25 °C, 95 ppm TDS as NaCl	1 L
U-IBF-505	Conductivity/TDS Standard 500 µmhos/cm at 25 °C, 240 ppm TDS as NaCl Conductivity..... 500 µmhos/cm Total dissolved solids (as NaCl) .....240 ppm	500 mL
U-IBF-505-L	Conductivity/TDS Standard 500 µmhos/cm at 25 °C, 240 ppm TDS as NaCl	1 L
U-IBF-510	Conductivity/TDS Standard 1000 µmhos/cm at 25 °C, 495 ppm TDS as NaCl Conductivity..... 1000 µmhos/cm Total dissolved solids (as NaCl) .....495 ppm	500 mL
U-IBF-510-L	Conductivity/TDS Standard 1000 µmhos/cm at 25 °C, 495 ppm TDS as NaCl	1 L
U-IBF-520	Conductivity/TDS Standard 2000 µmhos/cm at 25 °C, 1000 ppm TDS as NaCl Conductivity..... 2000 µmhos/cm Total dissolved solids (as NaCl) .....1000 ppm	500 mL
U-IBF-520-L	Conductivity/TDS Standard 2000 µmhos/cm at 25 °C, 1000 ppm TDS as NaCl	1 L
U-IBF-550	Conductivity/TDS Standard 5000 µmhos/cm at 25 °C, 2620 ppm TDS as NaCl Conductivity..... 5000 µmhos/cm Total dissolved solids (as NaCl) .....2620 ppm	500 mL
U-IBF-550-L	Conductivity/TDS Standard 5000 µmhos/cm at 25 °C, 2620 ppm TDS as NaCl	1 L
U-IBF-600	Conductivity/TDS Standard 10000 µmhos/cm at 25 °C, 5400 ppm TDS as NaCl Conductivity.....10000 µmhos/cm Total dissolved solids (as NaCl) .....5400 ppm	500 mL
U-IBF-600-L	Conductivity/TDS Standard 10000 µmhos/cm at 25 °C, 5400 ppm TDS as NaCl	1 L

pH calibration

U-IBF-020	pH Buffer pH 2.00 ± 0.01 at 25 °C (NIST traceable)	500 mL
U-IBF-020-L	pH Buffer pH 2.00 ± 0.01 at 25 °C (NIST traceable)	1 L
U-IBF-040	pH Buffer pH 4.01 - Colour Coded Red Standardised against NIST certified pH 4.01 and pH 6.86 reference samples	500 mL
U-IBF-040-L	pH Buffer pH 4.01 - Colour Coded Red Standardised against NIST certified pH 4.01 and pH 6.86 reference samples	1 L
U-IBF-070	pH Buffer pH 7.00 - Colour Coded Yellow Standardised against NIST certified pH 6.86 and pH 9.18 reference samples	500 mL
U-IBF-070-L	pH Buffer pH 7.00 - Colour Coded Yellow Standardised against NIST certified pH 6.86 and pH 9.18 reference samples	1 L
U-IBF-100	pH Buffer pH 10.01 - Colour Coded Blue Standardised against NIST certified pH 6.86 and pH 10.01 reference samples	500 mL
U-IBF-100-L	pH Buffer pH 10.01 - Colour Coded Blue Standardised against NIST certified pH 6.86 and pH 10.01 reference samples	1 L
U-IBF-120	pH Buffer pH 12.00 ± 0.01 at 25 °C (NIST traceable)	500 mL
U-IBF-120-L	pH Buffer pH 12.00 ± 0.01 at 25 °C (NIST traceable)	1 L

Turbidity

Code	Product	Unit
REACRS-0.0-100	Turbidity standard non ratio 0.0 NTU	100 mL
REACRS-0.0-500	Turbidity standard non ratio 0.0 NTU	500 mL
REACRS-0.1-100	Turbidity standard non ratio 0.1 NTU	100 mL
REACRS-0.1-500	Turbidity standard non ratio 0.1 NTU	500 mL
REACRS-0.2-100	Turbidity standard non ratio 0.2 NTU	100 mL

Code	Product	Unit
REACRS-0.2-500	Turbidity standard non ratio 0.2 NTU	500 mL
REACRS-0.5-100	Turbidity standard non ratio 0.5 NTU	100 mL
REACRS-0.5-500	Turbidity standard non ratio 0.5 NTU	500 mL
REACRS-100-100	Turbidity standard non ratio 100 NTU	100 mL
REACRS-100-500	Turbidity standard non ratio 100 NTU	500 mL
REACRS-10-100	Turbidity standard non ratio 10 NTU	100 mL
REACRS-10-500	Turbidity standard non ratio 10 NTU	500 mL
REACRS-1-100	Turbidity standard non ratio 1 NTU	100 mL
REACRS-1-500	Turbidity standard non ratio 1 NTU	500 mL
REACRS-200-100	Turbidity standard non ratio 200 NTU	100 mL
REACRS-200-500	Turbidity standard non ratio 200 NTU	500 mL
REACRS-20-100	Turbidity standard non ratio 20 NTU	100 mL
REACRS-20-500	Turbidity standard non ratio 20 NTU	500 mL
REACRS-2-100	Turbidity standard non ratio 2 NTU	100 mL
REACRS-2-500	Turbidity standard non ratio 2 NTU	500 mL
REACRS-4000-100	Turbidity standard non ratio 4000 NTU	100 mL
REACRS-4000-500	Turbidity standard non ratio 4000 NTU	500 mL
REACRS-400-100	Turbidity standard non ratio 400 NTU	100 mL
REACRS-400-500	Turbidity standard non ratio 400 NTU	500 mL
REACRS-40-100	Turbidity standard non ratio 40 NTU	100 mL
REACRS-40-500	Turbidity standard non ratio 40 NTU	500 mL
REACRS-500-100	Turbidity standard non ratio 500 NTU	100 mL
REACRS-500-500	Turbidity standard non ratio 500 NTU	500 mL
REACRS-50-100	Turbidity standard non ratio 50 NTU	100 mL
REACRS-50-500	Turbidity standard non ratio 50 NTU	500 mL
REACRS-5-100	Turbidity standard non ratio 5 NTU	100 mL
REACRS-5-500	Turbidity standard non ratio 5 NTU	500 mL
REACRS-60-100	Turbidity standard non ratio 60 NTU	100 mL
REACRS-60-500	Turbidity standard non ratio 60 NTU	500 mL
REACRS-800-100	Turbidity standard non ratio 800 NTU	100 mL
REACRS-800-500	Turbidity standard non ratio 800 NTU	500 mL
REACRSR-0.1-100	Turbidity standard ratio 0.1 NTU	100 mL
REACRSR-0.1-500	Turbidity standard ratio 0.1 NTU	500 mL
REACRSR-0.2-100	Turbidity standard ratio 0.2 NTU	100 mL
REACRSR-0.2-500	Turbidity standard ratio 0.2 NTU	500 mL
REACRSR-0.4-100	Turbidity standard ratio 0.4 NTU	100 mL
REACRSR-0.4-500	Turbidity standard ratio 0.4 NTU	500 mL
REACRSR-0.5-100	Turbidity standard ratio 0.5 NTU	100 mL
REACRSR-0.5-500	Turbidity standard ratio 0.5 NTU	500 mL
REACRSR-0-100	Turbidity standard ratio 0.0 NTU	100 mL
REACRSR-0-500	Turbidity standard ratio 0.0 NTU	500 mL
REACRSR-1000-100	Turbidity standard ratio 1000 NTU	100 mL
REACRSR-1000-500	Turbidity standard ratio 1000 NTU	500 mL
REACRSR-100-100	Turbidity standard ratio 100 NTU	100 mL
REACRSR-100-500	Turbidity standard ratio 100 NTU	500 mL
REACRSR-10-100	Turbidity standard ratio 10 NTU	100 mL
REACRSR-10-500	Turbidity standard ratio 10 NTU	500 mL
REACRSR-1-100	Turbidity standard ratio 1 NTU	100 mL
REACRSR-1-500	Turbidity standard ratio 1 NTU	500 mL

Miscellaneous

Code	Product	Unit
REACRSR-20-100	Turbidity standard ratio 20 NTU	100 mL
REACRSR-20-500	Turbidity standard ratio 20 NTU	500 mL
REACRSR-2-100	Turbidity standard ratio 2 NTU	100 mL
REACRSR-2-500	Turbidity standard ratio 2 NTU	500 mL
REACRSR-4000-100	Turbidity standard ratio 4000 NTU	100 mL
REACRSR-4000-500	Turbidity standard ratio 4000 NTU	500 mL
REACRSR-400-100	Turbidity standard ratio 400 NTU	100 mL
REACRSR-400-500	Turbidity standard ratio 400 NTU	500 mL
REACRSR-40-100	Turbidity standard ratio 40 NTU	100 mL
REACRSR-40-500	Turbidity standard ratio 40 NTU	500 mL
REACRSR-4-100	Turbidity standard ratio 4 NTU	100 mL
REACRSR-4-500	Turbidity standard ratio 4 NTU	500 mL
REACRSR-500-100	Turbidity standard ratio 500 NTU	100 mL
REACRSR-500-500	Turbidity standard ratio 500 NTU	500 mL
REACRSR-50-100	Turbidity standard ratio 50 NTU	100 mL
REACRSR-50-500	Turbidity standard ratio 50 NTU	500 mL
REACRSR-5-100	Turbidity standard ratio 5 NTU	100 mL
REACRSR-5-500	Turbidity standard ratio 5 NTU	500 mL
REACRSR-90-100	Turbidity standard ratio 90 NTU	100 mL
REACRSR-90-500	Turbidity standard ratio 90 NTU	500 mL

Miscellaneous

X-ray diffraction

Code	Product	Unit
NIST-1976B	Alumina plate - Instrument response Standard for X-Ray Powder Diffraction This Standard Reference Material (SRM®) consists of a sintered alumina disc intended for use in calibration of X-ray powder diffraction equipment with respect to line position and intensity as a function of 2Θ angle. The solid form of the SRM eliminates variability imposed by sample loading procedure from intensity measurements. A unit of NIST-1976b consists of a sintered alumina disc approximately 25.6 mm in diameter by 2.2 mm in thickness Please ask for further details	disc

Laboratory supplies

Filter

Code	Product	Unit
U-SPE-01020	ULTRASep™ TSS Filters, 1.5 µm GMF, 1 mm (20 mm diameter) - Fits CoorsTek No. Gooch - 60148	100 pcs
U-SPE-01021	ULTRASep™ TSS Filters, 1.5 µm GMF, 1 mm (21 mm diameter) - Fits CoorsTek No. Gooch - 60148	100 pcs
U-SPE-01024	ULTRASep™ TSS Filters, 1.5 µm GMF, 1 mm (24 mm diameter) - Fits CoorsTek No. Gooch - 60151	100 pcs

eVol® XR hand-held automated analytical syringe

Code	Product	Unit
SGE-2910200	eVol® XR kit electronic syringe starter kit Each Kit includes unit, charger, stand, 3 syringes: 5µL, 100µL and 1mL	Each
SGE-2910205	eVol® XR kit electronic syringe (handle only)	Each
eVol® XR Syringes		
SGE-2910035	1 mL eVol® Syringe	Each
SGE-2910324	500 µL eVol® Syringe (set of 3)	Each
SGE-2910329	100 µL eVol® Syringe (set of 3)	Each
SGE-2910335	1 mL eVol® Syringe (set of 3)	Each
Replacement plungers for eVol® syringes		
SGE-2910385	Replacement plunger for 1 mL eVol® syringe	Each
Replacement needles for 5 µL eVol® syringes		
SGE-2910320	5 µL eVol® Syringe (set of 3)	Each
Replacement needles for 50 µL eVol® syringes		
SGE-2910322	50 µL eVol® Syringe (set of 3)	Each

Syringes

Code	Product	Unit
SGE 2250-7	10 µL GC gas tight syringe with removable needle (50 mm + 70 mm)	each
SGE 3250-7	25 µL GC gas tight syringe with removable needle (50 mm + 70 mm)	each
SGE 4250-7	50 µL GC gas tight syringe with removable needle (50 mm + 70 mm)	Stck.
SGE 5250-7	100 µL GC gas tight syringe with removable needle (50 mm + 70 mm)	each
SGE 7250-7	500 µL GC gas tight syringe with removable needle (50 mm + 70 mm)	each
SGE 8500-7	2.5 mL GC gas tight syringe with removable needle (50 mm + 70 mm)	each
SGE 8700-7	5 mL GC gas tight syringe with removable needle (50 mm + 70 mm)	each
SGE 8900-7	10 mL GC gas tight syringe with removable needle (50 mm + 70 mm)	each

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