

L2000 DX

No Instrument
Covers More
Ground . . .

. . . or Water

. . . or Oil

. . . or Surfaces.



DEXSIL®

You've Got to Find All the Contaminants . . . With the L2000DX You're Really Covered

The L2000DX's capability to analyze four different matrixes: soil, water, transformer oil, and surface wipes, gives you unprecedented versatility for quantifying chlorinated compounds on-site. For use in the field or in the lab, it can quantify all types of chlorinated hydrocarbons such as PCBs, chlorinated solvents and pesticides in soil and water. Pre-programmed to quantify 28 chlorinated compounds and easily programmed by the analyst for an infinite number of other compounds, the L2000DX gives you virtually total coverage of chlorinated compounds encountered as contaminants on today's cleanup sites.

Quantification is easy for chlorinated compounds in all four matrixes. The test uses a metallic sodium reagent to strip the covalently bonded chlorine off the organic molecule. The resultant chloride is isolated in an aqueous buffered solution for immediate analysis in the field or the laboratory.

The L2000DX uses an ion specific electrode to quantify the extracted chloride and converts the chloride concentration to ppb, ppm or $\mu\text{gms}/100\text{cm}^2$ of the target analyte.



No Technical Training Necessary

The L2000DX requires no technical expertise, only a review of the step-by-step instructions supplied with the instrument.

Fast Turnaround Time

Eliminate the problems of waiting days or even weeks for laboratory tests. With the L2000DX, a crew can act quickly to secure equipment, isolate a site, or remove contaminated soil. An oil sample takes only about 5 minutes to run. Soil, water and surface wipes take about 10 minutes each.

Simple to Use

One operator can complete about 100 oil tests, or 50 soil or surface wipe tests in an eight hour day.

Just measure out the sample, extract the analyte, and react and isolate the chlorine associated with the analyte. Then the analyst can quantify the resulting chloride with the L2000DX analyzer. Your results are reported in ppm (or ppb for water) of analyte.

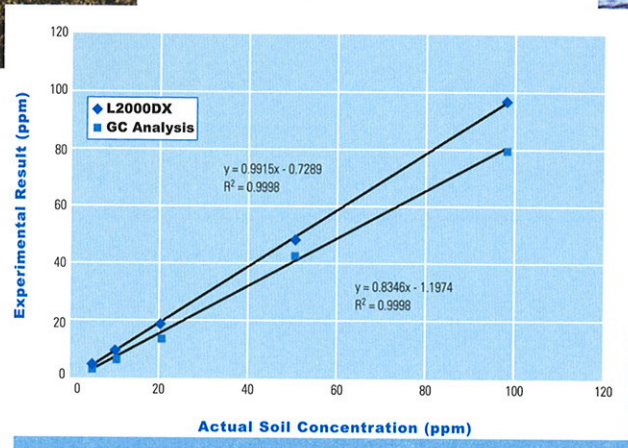
Several samples can be prepared concurrently, then analyzed in less than a minute per samples. Samples may also be prepared and analyzed at a later time.

Cost Efficiency

The L2000DX eliminates the high cost of laboratory analysis. Whether testing one sample or many, the L2000DX has a profound economic advantage over laboratory methods.



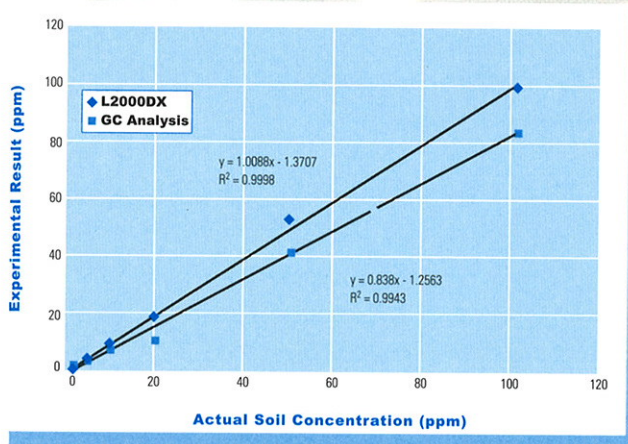
Response Curve for Trichloroethylene in Soil



Soil

The L2000DX saves time and expense when you are trying to detect chlorinated compounds at a contaminated site. For a fraction of the cost of lab methods and in less than 10 minutes, you'll have accurate analysis of large numbers of soil samples. The L2000DX pays for itself rapidly by expediting the excavation process - realizing considerable savings in man hours and equipment costs. Samples are reacted with a sodium reagent to transform the contaminated compound into chloride which the instrument then quantifies. The L2000DX shows results in parts per million of the analyte of interest. Inorganic chloride does not interfere with the test.

Response Curve for Chlordane in Soil

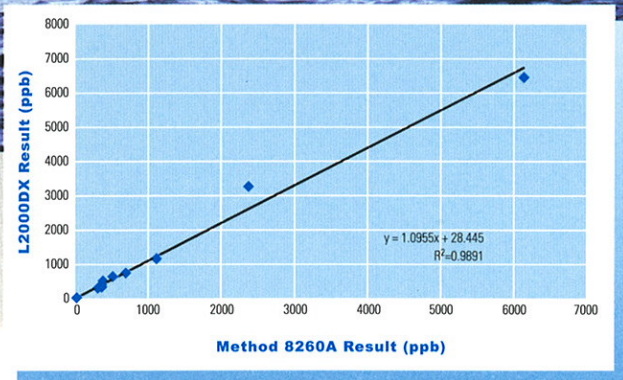


Surfaces

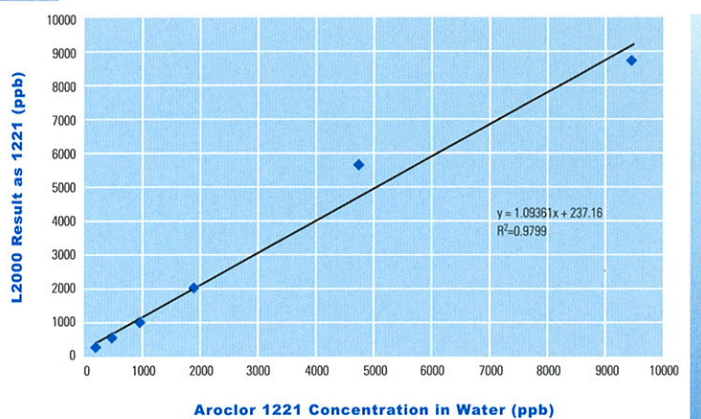
The L2000DX is capable of analyzing surfaces with surface wipes in the field or in the lab in less than 10 minutes at a fraction of the cost of lab methods. In four easy steps, you will have fast results reading out directly in micrograms per 100 square centimeters. To significantly reduce the chances of cross contamination, each wipe uses its own disposable sampling tools and chromatographic grade hexane is sealed in single use glass ampules.

WATER

**L2000DX vs Lab for PCE
Analysis of Water**

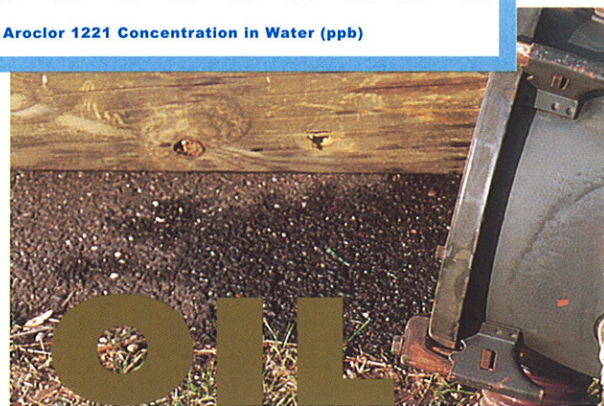


**Response Curve for
Aroclor 1221 in Water**



Water

The L2000DX screens water samples for chlorinated solvents or other chlorinated organics on-site in just 10-15 minutes per sample. The instrument is pre-programmed with 9 methods for analysis of water samples. The extraction efficiencies and conversion factors for these analytes have been determined and programmed into the instrument. The analysis consists of a solvent extraction in the sample container, followed by the standard procedure used with oil samples. Field trials and lab validation studies show that the L2000DX's water analysis capabilities compare very well with expensive laboratory methods. Figures above show water methods accurately determining the true contaminant concentration down to 20 ppb for most analytes with a linear range of up to 20 ppm. Inorganic chloride does not interfere with the test.



Transformer Oil

The L2000DX screens transformer oil for PCB contamination on-site, accurately and cost-effectively in less than 5 minutes. Incorporating the same chemistry as the EPA SW-846 Method for PCB in soil, L2000DX technology is being used worldwide by utilities to isolate clean transformer oil from PCB contaminated oil. The L2000DX is ideal for use during routine servicing of equipment. In less than 5 minutes, and for a substantial cost savings per test, you can quantify the PCB concentration on-site. Because different PCBs have different percentages of chlorine, the L2000DX lets you choose from the following Aroclors in the L2000DX's memory: Aroclor 1242, 1254, 1260, and Askarel A. Less common Aroclors such as Aroclor 1221 can also be programmed in by the operator.

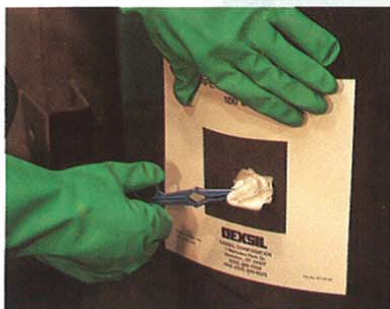
**Comparison of the results of
AROCLOR 1242 in
transformer oil by the L2000
Chloride Analyzer and G.C.
Method 600/4-81-045**

Aroclor 1242 µg/gram	L2000 Analyzer µg/gram	G.C. Method µg/gram
0	1.0	ND
10	9.6	10.4
50	49.4	51.4
100	98.5	95.6
500	494.0	484.6

L2000DX

Highlights

- **Analysis in 4 Matrixes:
Soil, Water, Transformer Oil,
and Surface Wipes**
- **For use in the Field or in the Lab**
- **Completely Digital**
- **28 Pre-programmed Analytes**
- **Programmable for Infinite Compounds**
- **Menu Driven**
- **Data Printout**
- **Rechargeable Battery for Field Use**
- **Custom Programmable**
- **Cost Effective**





Ask about **DEXSIL's**
new solvent system
for compact clays
designed for optimum
extraction of hard
to solvate clays.

Technical Data

Physical

Size	w = 9" (230mm) d = 9.5" (240mm) h = 4.25" (110mm)
Weight	5 lbs. 12 oz (2.6 kg)
Shipping Weight	17 lbs. (7.75 kg)

Case	Painted Aluminum
Keypad	16 Position UV-Resistant Polyester Membrane Keypad

Electrical

Battery Power	Internal 8V Gel Cell (3 days of operation on full charge)
Line Power Charging	12W, 115V or 220V Wall Transformer Internal IC controlled charging circuit
Power Management	Automatic Shut-off after 15 minutes of non-use with Low Power Warning and Shut-off

Digital

Processor	AM188EM
A/D Converter	24 Bit Auto Ranging
Memory	
Method Storage	28 Pre-programmed methods and up to 22 user defined methods
Data Storage	1800 pts

Input

Range	± 300mV
Electrode	BNC Connector (back panel)
Electrode Type	ORION 96-17B Combination Chloride Electrode
RS-232	(Factory Programming Only)

Output

Display	Backlit 2 x 16 LCD 0.32" character height
Printer	40 character onboard thermal printer
External Printers	Canon BJC-4300, BJC 250 and BJ-200ex; Epson ActionLaser 1400 and Stylus 740, HP DeskJet 870Cse and LaserJet 4000T
Parallel Printer Port	25-pin Female connector (bidirectional)

Operating Environment

Temperature	55°F - 100°F (13°C - 38°C)
Humidity	85% (non-condensing)
Sunlight	Do not operate with electrode exposed to direct or indirect sunlight.

L2000[®]DX PCB/Chloride ANALYZER

Quantitative Test for PCB/Chlorinated Organics In:



Dielectric Fluid • Soil • Water • Surface Wipes

L2000DX PCB/Chloride ANALYZER

USEPA SW-846 Method 9078 For Soil

The L2000DX relies on the same basic chemistry as the Clor-N-Oil test kits, however instead of a colorimetric reaction, the L2000DX uses an ion specific electrode to quantify the contamination in the sample. Sample analysis is available for transformer oils, soils and surface wipes. The usable measurement range for oils and soils is 3 to 2000 ppm, 20 ppb to 2000 ppm for water and 3 to 2000 $\mu\text{g}/100 \text{ cm}^2$ for wipe samples.

The large LCD (2 lines x 16 characters) back-lit display is easy to read in all lighting situations. Pertinent information regarding the program in use, blank subtraction values, reporting units, and concentration values are clearly visible on the display. The L2000DX Analyzer is preprogrammed with conversion factors for all major Aroclors and most chlorinated pesticides and solvents. The built-in methods include corrections for extraction efficiencies, dilution factors and blank contributions.

Precanned programs are easily selected from a menu to perform routine analysis of common chlorinated organic compounds. For less common analytes or for custom measurement protocols, user defined methods can be easily built and stored using the method development menus. Analysis results can be printed immediately to the on-board 40 column thermal printer, or they can be stored for later print out using the parallel port or by uploading to a PC via the RS-232 serial port. The analyzer itself utilizes rechargeable batteries which allow fully mobile operation in remote locations without access to power.

L2000[®]DX PCB/Chloride Analyzer System

L2000DX Analyzer



The L2000DX PCB/Chloride Analyzer is a field portable instrument incorporating an ion specific electrode that can quantify chlorinated compounds in four matrixes. Powered by a rechargeable 8-volt battery or 120 volt AC power, the L2000DX can quantify chlorinated compounds from 3 ppm to 2000 ppm. Programmed into the instrument for a variety of compounds, are extraction efficiencies, conversion factors and other variables for accurate and reliable analysis. For unique compounds, the user can design and program their own methods into the instrument.

Analytes	PCBs, Chlorinated Organics
Matrix	Water, Transformer Oil, Surface Wipes, Soil
Detection Method	Electrochemical
Action Level	Oil: 3-2000 ppm Soil: 3-2000 ppm Water: 20 ppb-2000 ppm Wipe: 3-2000 ug/100 cm²
Analysis Time	Oil - 5 min, Soil, Wipes and Water 10 min.

L2000DX PCB/Chloride Analyzer System (Choose the following option)	Catalog # LP-200
<u>When ordering specify:</u>	
Option 1 - 40 Oil Reagents	LP-200-01
Option 2 - 20 Soil Reagents	LP-200-02
Option 3 - 20 Water Reagents	LP-200-03
Option 4 - 20 Wipe Reagents	LP-200-04

L2000DX Reagents For Dielectric Fluid

The L2000DX PCB/Chloride Analyzer is field portable, designed to screen dielectric fluid for PCBs, on-site, at a much lower cost than laboratory methods. Total testing time is less than 5 minutes per test. The L2000DX can quantify PCB in dielectric fluid from 3 ppm to 2000 ppm. The L2000DX PCB/Chloride Analyzer can reduce the number of laboratory samples by as much as 80%.



Analytes	PCBs
Matrix	Transformer Oil
Detection Method	Electrochemical
Action Levels	3 ppm - 2000 ppm
MDL	3 ppm
MQL	9 ppm
Interferences	Non-Analyte Chlorine
Overall Accuracy	10% +/- MDL
Analysis Time	5 minutes

L2000DX Oil Reagents	Catalog #
40-Oil Reagents	LP-ORK-40
200-Oil Reagents	LP-ORK-BP

L2000DX Reagents For PCB Wipes

Dexsil has developed a method for analysing wipe samples using the L2000DX Analyzer. The analysis of PCBs on surfaces can now be achieved on-site in less than 10 minutes per sample. Sampling kit comes complete with:

- PCB Rated Gloves
- Safety Goggles
- Disposable Forceps
- Gauze Pads
- Sample Vials
- Chromatographic Hexane
(Sealed in Glass Ampules)
- All The Necessary L2000DX Reagents



Analytes	PCBs
Matrix	Surface Wipes
Detection Method	Electrochemical
Action Levels	3 ug /100cm² - 2,000ug /100cm²
Analysis Time	10 minutes

L2000DX Wipe Reagents	Catalog #
20-Surface Wipe Reagents	LP-WIP-20

L2000[®]DX Reagents for Soil

USEPA SW-846 Method 9078 For Soil



Soils contaminated with chlorinated compounds such as PCBs, chlorinated solvents and pesticides/herbicides, require accurate analysis for investigators to make confident decisions as to the extent of the contamination and its clean-up. Laboratory methods are both time consuming and expensive. Using off-site laboratories requires retrieving samples in the field, transporting the samples, and then waiting days or weeks for the results. The L2000DX Analyzer, with on-site capabilities, can alleviate these problems.

L2000DX Two Step Extraction Method for SOIL

Recommended for hard to extract wet clays. Soils, such as wet clays, pose an extraction problem with most extraction solvents on the market today. If the extraction solvent cannot solvate the soil and remove the contaminant efficiently, an underestimation of the contaminant will occur. Dexsil has developed a "Two Step Extraction Method" that allows difficult soils to be solvated efficiently for accurate and reliable results.

Analytes	PCBs, Chlorinated Organics
Matrix	Soil
Detection Method	Electrochemical
Action Levels	3 ppm - 2000 ppm
MDL	3 ppm
MQL	9 ppm
Interferences	Non-Analyte Organic Chlorine
Overall Accuracy	10% +/- MDL
Analysis Time	10 minutes

L2000DX Soil Reagents	Catalog #
20 Soil Reagents	LP-SRK-20
200 Soil Reagents	LP-SRK-BP

L2000DX Two Step Extraction	Catalog #
20 Pack	LP-SR2-20
200 Pack	LP-SR2-BP

L2000[®]DX Reagents for Water

The L2000DX PCB/Chloride Analyzer is an efficient, accurate tool for determining chlorinated organic compound contamination in groundwater. The L2000DX is user friendly with a variety of preprogrammed methods specifically designed for water testing. Extraction efficiencies and conversion factors for over a dozen chlorinated compounds have been determined and programmed into the instrument for accurate in-field results. In addition to the preprogrammed methods, customized methods can be designed by the user incorporating characteristics specific to site location and analyte.



Field trial and laboratory validation studies show that the L2000DX's water analysis compares very well with expensive laboratory methods. This data shows that the L2000DX can accurately determine the true contaminant concentration in two ranges. The instrument has a low range of 20 ppb* to 5 ppm and a high range of 5 ppm to 2000 ppm. Inorganic chloride does not interfere with the test.

MDL and MQL is analyte dependent.

Analytes	PCB's, Chlorinated Organics	
Matrix	Water	
Detection Method	Electrochemical	
	<u>High Range</u>	<u>Low Range</u>
Action Levels	3 - 2,000 ppm	20 ppb - 2000 ppm
MDL*	3 ppm	20 ppb
MQL*	9 ppm	60 ppb
Interferences	Non-Analyte Organic Chlorine	
Overall Accuracy	10% +/- MDL	
Analysis Time	10 minutes	

L2000DX Water Reagents	Catalog #
20 Water Reagents	LP-WRK-20
200 Water Reagents	LP-WRK-BP