







PCB
PLATFORM

 **unitar**
United Nations Institute
for Training and Research

PCB analysis

PCB analysis

PCB analysis can be divided in two categories:

Direct method	Indirect method
<p>Analytical technique that identifies particular PCB formations.</p>	<p>It determines the PCB concentration through the detection of chlorine ions in the sample.</p>
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ul style="list-style-type: none"> • Accurate • Precise • Reliable • Analyzes PCBs in a variety of matrices (oil, soil, etc.) </div> <div style="width: 45%; text-align: right;">  </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;"> <ul style="list-style-type: none"> • Costly • Rather long analysis time • Requires qualified personnel • Requires transportation of samples to the laboratory </div> <div style="width: 45%; text-align: right;">  </div> </div>	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ul style="list-style-type: none"> • Low cost • No specialized personnel required • Results can be obtained in the field </div> <div style="width: 45%; text-align: right;">  </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;"> <ul style="list-style-type: none"> • Less accurate • Less reliable • False positives* when detecting other sources of chlorine. </div> <div style="width: 45%; text-align: right;">  </div> </div>
<p>Example</p> <ul style="list-style-type: none"> • Gas chromatography with electron capture detection 	<p>Example</p> <ul style="list-style-type: none"> • Clor-N-Oil[®] 50 (Oil) • Clor-N-Soil[®] (Soil) • L2000XDT[®] (Oil, soil, water and non-porous surfaces)



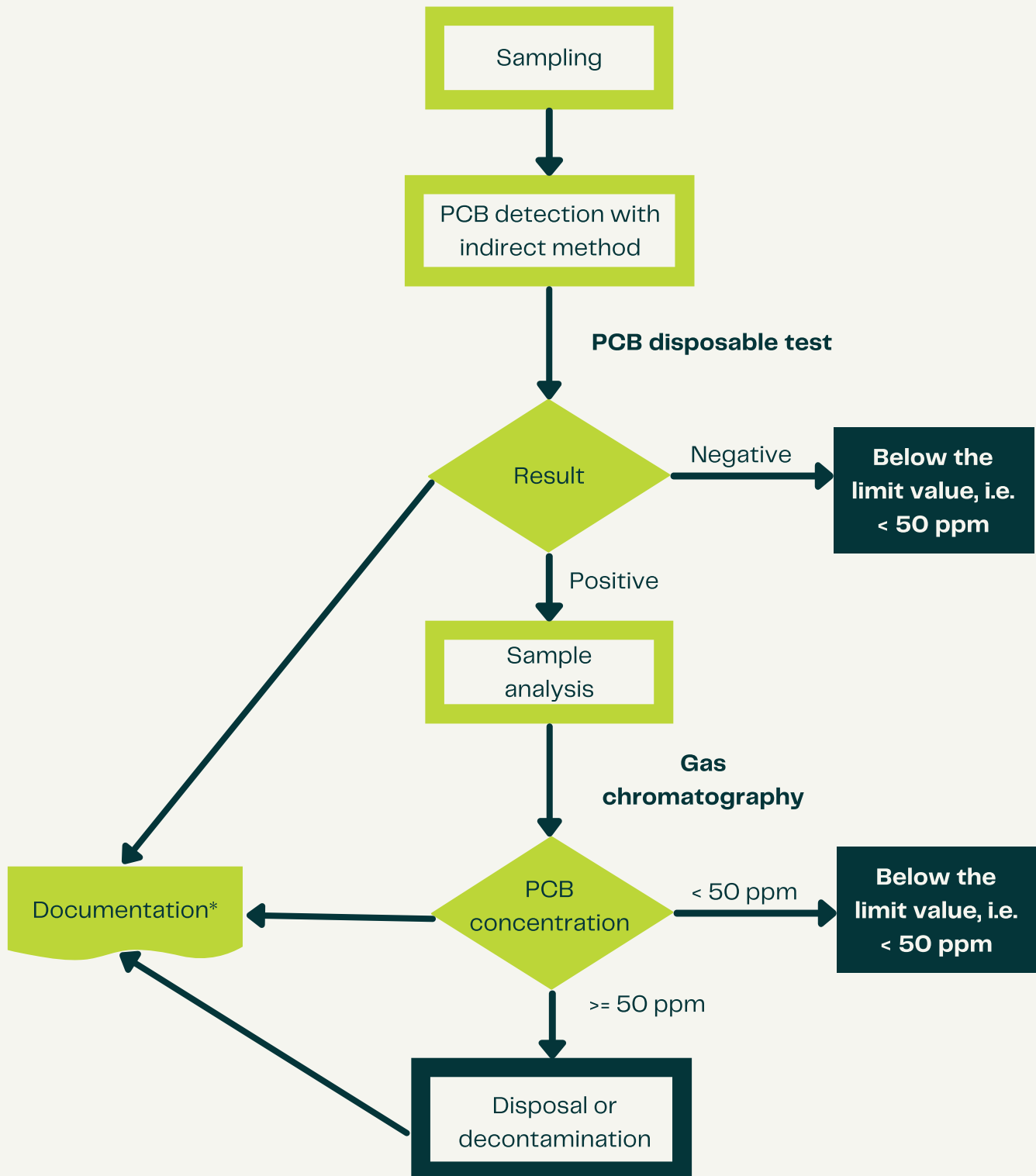
Other indirect method technologies:

- DR/800 Serial Colorimeters: PCB in Water Test Kit
- DR/4000 UV-VIS Spectrophotometer: PCB in Water Test Kit
- ENVIROGARD Immunoassay Technology
- KWIK-SKRENE

*Positive result: PCB concentration \geq 50 ppm.

PCB analysis

PCB detection procedure



Documentation: everything collected is updated in the PCB inventory database.

PCB analysis

PCB disposable tests - Indirect detection through chlorine detection

After receiving the samples, the screening team will determine the presence of PCBs using either an L2000DXT® analyzer, Clor-N-Oil® 50, Clor-N-Soil® or other tests.



If a test kit gives a positive result (PCB \geq 50 ppm) a verification by gas chromatography is necessary.



Laboratory Analysis - Gas Chromatography (GC)

Gas chromatography will allow us to confirm the presence of PCBs and to determine precise concentration of PCB congeners or Aroclor mixtures.

In case the PCB concentration is higher or equal to 50 ppm, you should proceed to the elimination or decontamination stage.

