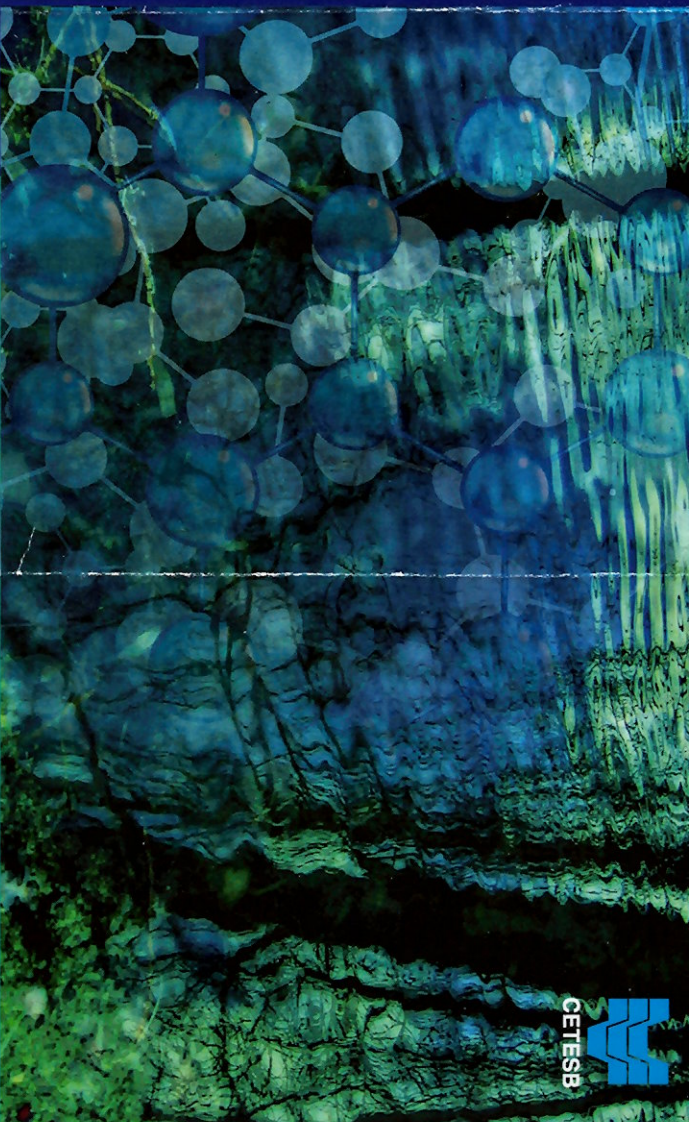


The Laboratory belongs to the Brazilian Network of Laboratories (RBLE), and have laboratorial quality system with accreditation under ISO/IEC 17025.

Courses and Training

The Lab of Organic Chemistry team transfers technical and methodological knowledge through courses and practical training on organic chemical analysis, including persistent organic pollutants according to Stockholm Convention and laboratorial quality assurance and control.

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ORGANIC CHEMISTRY

PHYSICOCHEMICAL ANALYZES

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ENVIRONMENTAL ANALYZES LABORATORIES



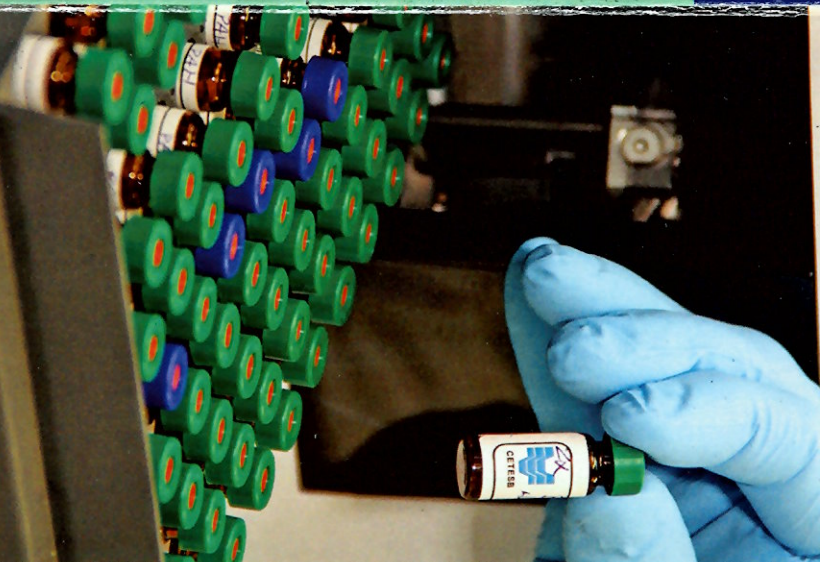
Laboratory of Organic Chemistry

The Laboratory of Organic Chemistry performs organic chemical and organic aggregates assays in different kind of samples of environmental concern, and works on the development of new analytical methods. These activities complement the studies of environmental contamination and support the actions of monitoring, surveillance, control and licensing of CETESB in the State of São Paulo. The Laboratory has an experienced team in analysis of trace levels of organic pollutants, consisting of specialized middle level technicians, Chemistries, Masters in Chemistry and Chemical Engineers. The Laboratory works with validated methods for sample preparation including extraction clean up steps and has modern equipment for instrumental analysis.

Matrices

Main environmental matrices analyzed by the laboratory of organic chemistry:

- Surface water (freshwater, saline and brackish water)
- Drinking water
- Groundwater
- Soil
- Sediment
- Solid and liquid wastes
- Biological (aquatic organisms)
- Ambient air (passive sampler - PAS)
- Emission
- Fly ash
- Wastewater



Techniques for Sample Preparation

For trace analysis, the pollutants are extracted from different matrices by different techniques:

Extraction

- Liquid-liquid (L/L)
- Solid phase (SPE)
- Soxhlet
- Microwave-assisted Cleanup / fractionation
- Gel permeation chromatography (GPC)
- Sulphur reduction
- Alumina
- Florisil®
- Silica gel
- Mixed column (acid silica /AgNO₃/ acid silica)
- Carbon / celite.



Chemical Assays

- Volatile organic compounds (VOCs)
- Trihalomethanes (THM)
- Semi volatile organic compounds (SVOC)
- Organochlorine pesticides (OCPs)
- Herbicides (Chlorinated phenoxiacid, Triazin and others);
- Organophosphorous pesticides;
- Polycyclic aromatic hydrocarbons (PAHs)

- Halogenated phenols;
- Dioxins and furans
- dioxin-like - PCBs
- Indicator PCBs
- PCBs - Arochlors
- Algae toxins (microcystins)
- Total and dissolved organic carbon
- Trihalomethanes formation potential (THMFP)

Equipment

Gas and Liquid Chromatography Systems with different detectors:

- GC/ECD/ECD
- GC/NPD/NPD
- GC/MS-EI/NCI/PCI
- GC/MS/MS-EI/NCI/PCI
- HRGC/HRMS
- GC/MS/EI-Headspace
- GC/MS/EI-Purge & Trap
- HPLC/FLD/UV
- HPLC/FLD/DAD
- LC/MS/MS

