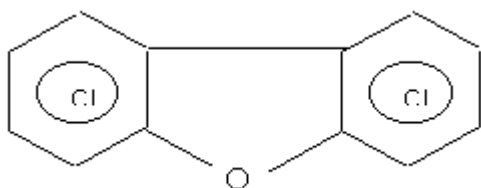
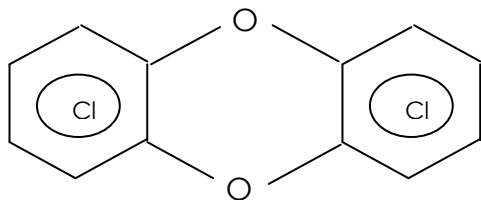


NATIONAL REFERENCE TRACE ORGANICS LABORATORY



Certificate No. T-0643; T-0644
ISO/IEC 17025
Accredited Laboratory

CENTRAL POLLUTION CONTROL BOARD

CENTRAL POLLUTION CONTROL BOARD

The Central Pollution Control Board (CPCB) is a statutory organization under the aegis of Ministry of Environment & Forests (MoEF), Govt. of India. The Central Pollution Control Board serves as an apex organization in the country, as technical wing of MoEF and provides technical assistance to the State Pollution Control Boards, Pollution Control Committees for implementation of the provisions of various pollution control legislations in the country.

The Central Pollution Control Board has been providing major thrust to environmental surveillance work for pollution control in polluting industries in the country, restoration of environmental quality in problem areas / polluted river stretches, strengthening of monitoring capabilities for water and ambient air quality monitoring, toxic pollutants, monitoring of aquatic resources, management of municipal solid waste, biomedical waste, hazardous waste and monitoring of specific pollutants such as RSPM, BTX, PAH, PCB's including POP's.

CPCB laboratories play an important role in assessing the status of environment comprising analysis of water, air and soil analysis and analysis of biotic components (flora, fauna and human fluids).

CPCB Laboratories is recognized under The Environment (Protection) Act, 1986 and also accredited as per ISO/IEC-17025, 1999 Guidelines, by National Accreditation Board for Testing & Calibration Laboratories (NABL), Department of Science & Technology, New Delhi, India for Chemical testing (Certificate No. T 0643) & Biological testing (Certificate No. T0644). CPCB Laboratories are participating regularly in Proficiency Testing (PT) Programme conducted by Environmental Laboratory Approval Programme, Wadsworth Center New York State Department of Health, Albany, New York, USA.

CAPACITY BUILDING & STRENGTHENING OF CPCB LABORATORIES

The CPCB Laboratories are regularly strengthened in terms of instruments / equipment, expertise, and technical capabilities to undertake the national task of environmental assessment and pollution control in the country. Various national and international bilateral programmes are providing much needed support for this endeavour. The Development of

trace organic laboratory in collaboration with Indo-German Bilateral Programme GTZ-ASEM and with the assistance of Japanese Debt Relief Grant Assistance for Procurement of Instruments is one such activity for capacity building and strengthening of CPCB Laboratories.

PERSISTENT ORGANIC POLLUTANTS (POP's)

Stockholm Convention has identified several chemical compounds as Persistent Organic Pollutants (POP's), which are specially toxic more to the environment and hazardous to human health. The Persistence Organic Pollutants are of concern globally for high persistence in the environment, have ability to transport through various pathways. These do not disintegrate easily causing various serious short and life long health affects.

The Persistent Organic Pollutants as identified for priority action globally include Pesticides - Aldrin, Dieldrin, Endrin, Chlordane, Heptachlor, DDT, Toxaphene, Mirex, HCB; Poly-chloro Biphenyls (PCB's); Polychlorinated dibenzo - para - dioxin (PCDDs) and Polychlorinated dibenzo-furan (PCDFs).

ESTABLISHMENT OF NATIONAL REFERENCE LABORATORY FOR TRACE ORGANICS

CPCB has developed ultra trace organic laboratory as National Reference Laboratory in collaboration with GTZ-ASEM. The Experts from USA, Canada and consultant from ERGO Forschungesellschaft mbH, Hamburg, Germany have provided basic input for planning and establishment of laboratory.

LABORATORY LAYOUT FACILITIES

The National Reference Trace Organic Laboratory has provision of following layout facilities:

- Centralized Air-conditioned Instruments Rooms
- Emission Sampling and preparation Room
- Solid sample grinding and preparation Room
- Wet Processing Lab (Separately for high, medium and low contamination sample)
- Solvents / Chemicals Storage Room
- Standard Reference Material Storage Room
- Analytical Gases Room
- Air Handling Unit (AHU) Room
- Uninterrupted Power Supply Room
- Staff Room

SALIENT FEATURES OF LABORATORY

- Energy Efficient Construction with Modular blocks / bricks.
- Ergonomic Laboratory work area.
- Modular & Ergonomic Laboratory Furniture
- Elegant and Energy Saving Fixtures and Furnishings
- Specially designed dedicated Centralized Air conditioning and Air Handling Unit (AHU)
- HEPA (High Efficiency Particulate Absorption) Filtered and Activated Charcoal treated laboratory Air Supply.
- Positive Pressure Air supply in selected rooms.
- Dedicated Vapour Collection Treatment and Exhaust System.
- Low Constant Volume (LCV) Fume Hoods with Digital Flow Monitor, Control Panel in Sample Pre-treatment & Processing Rooms.



Low Constant Volume (LCV) Fume Chamber

- Elephant Trunk and Flexible Robo arm Hoods for exhausting Vapours from laboratory area.
- Carrier Gas and Fuel Gas piped supply lines.
- Occupational Safety Equipments – Emergency Showers, Eyewashes, Face shield, Goggles, Respirators, Aprons.
- Sensitive Fire Alarm & Fire Fighting System. Fire Proof Electrical Gadgets in selected rooms.
- Imported industrial plug points for instruments.
- High Capacity Uninterrupted Power Supply (UPS) System for Instrument and Lighting.
- Dedicated 100% Captive Power backup through High Capacity DG Set.
- Convenient and elegant Cable Management System (CMS) with channels for electrical and Data / communication system.

- Country's First Dioxin & Furan Sampling and Analytical facilities in ambient air and source emissions.
- Restricted Laboratory Access System.
- Advanced Sophisticated Latest Instrumentation.
- Trained Manpower at German & Canadian laboratories under guidance of German & Canadian specialists.
- Aesthetic Settings.

**ANALYTE GROUPS COVERED
(Matrices: Air/Water/Soil/ Sludge/ Waste Oil/
Hazardous Wastes)**

Group	Analytes	Instrument
Pesticides	<p>Organochlorine Pesticides (OCPs)</p> <p>Aldrin, α-BHC, β-BHC, γ-BHC, Chlordane, Dieldrin, p,p'-DDE, o,p'-DDT, p,p'-DDT, Endrin, α-Endosulfan,</p> <p>α -Endosulfan, Heptachlor, Mirex, Toxaphene</p> <p>Organophosphorus Pesticides (OCPPs)</p> <p>Chlorpyrifos, Malathion, Methyl Parathion</p> <p>Herbicides, 2,4-D and Carbamates</p>	<p>GC-ECD,</p> <p>GC-FPD/NPD</p> <p>HPLC</p>
PCBs	<p>Dioxin like (coplanar) congeners, Indicator congeners,</p> <p>Mono-ortho and Di-ortho congeners</p>	<p>GC-ECD,</p> <p>GC-LRMS,</p> <p>HRGC-HRMS</p>
Dioxin & Furan	7 Dioxin congeners and 10 Furan congeners	HRGC-HRMS
HCB, THM	Hexachlorobenzene, Trihalomethanes	GC-ECD, GC-LRMS
HAPs	<p>Polynuclear aromatic Hydrocarbons (PAHs),</p> <p>Volatile Organic Compounds (VOCs),</p> <p>Organo-Metallic Compounds</p>	GC-LRMS/FID
BTEX	Benzene, Toluene, Ethyl Benzene, m-Xylene, p-Xylene, o-Xylene	GC-FID/PID
Carbonyls	Carbonyl Compounds (Aldehydes and Ketones)	HPLC

ANALYTICAL INSTRUMENTS

Instruments	Make	Analyte Group
Gas Chromatograph (GC)-ECD/FID	Hewlett Packard	Organochlorine Pesticides (OCPs)
		Organophosphorus Pesticides (OPPs)
Gas Chromatograph (GC)-ECD/FID	Varian	Organochlorine Pesticides (OCPs)
		Trihalomethanes (THMs)
Gas Chromatograph (GC)-ECD/ECD/ FPD	Perkin Elmer	Organochlorine Pesticides (OCPs)
		Organophosphorus Pesticides (OPPs)
Gas Chromatograph (GC)-ECD/NPD/ NPD	Perkin Elmer	Organophosphorus Pesticides (OPPs)
		Organochlorine Pesticides (OCPs)
		Herbicides
Gas Chromatograph (GC) -ECD/FPD	Shimadzu	Organo-chlorine Pesticides (OCPs)
		Organo-phosphorous Pesticides (OPP's)
		Hexachloro-benzene, Trihalomethanes
		Herbicides
Gas Chromatograph (GC)-ECD/FPD	Shimadzu	Organo-chlorine Pesticides (OCPs)
		Organo-phosphorous Pesticides (OPP's)
		Hexachloro-benzene, Trihalomethane
		Herbicides
Gas Chromatograph Low Resolution Mass Spectrophotometer (GCLRMS) / ECD-FPD (Dedicated for water analysis)	AGILENT	OCP, OPP Pesticides
		Volatile Organic Compounds
	PERKIN ELMER	Semi Volatile Organic Compounds
		Poly Aromatic Hydrocarbons (PAHs)
		Polychlorinated Biphenyls (PCBs)
High Resolution Gas Chromatograph – High Resolution Mass Spectrophotometer (HRGC-HRMS)	JEOL JMS 800D	Polychlorinated Dibenzo-Dioxin
		Polychlorinated Dibenzo-Furan
		Polychlorinated Biphenyls (PCBs)
		Nitro Poly Aromatic Hydrocarbons (N-PAHs)
High Pressure Liquid Chromatograph (HPLC)	Agilent	Carbamates, 2,4-D, Herbicides
		Poly Aromatic Hydrocarbons (PAHs)
		Separation Chromatography for Cleanup



JMS 8000 – HIGH RESOLUTION GAS CHROMATOGRAPH – HIGH RESOLUTION MASS SPECTROMETER (HRGC-HRMS)



PERKIN ELMER GAS CHROMATOGRAPH – MASS SPECTROPHOTOMETER



'AGILENT' GAS CHROMATOGRAPH – LOW RESOLUTION MASS SPECTROPHOTOMETER



SHIMADZU GAS CHROMATOGRAPH



PERKIN ELMER GAS CHROMATOGRAPH CLARUS 500



HIGH PERFORMANCE LIQUID CHROMATOGRAPH



ADSORBABLE ORGANIC HALOGEN (AOX) ANALYZER



ROTARY EVAPORATOR



LCV FUME CHAMBERS WITH DIGITAL FLOW METER



CENTRAL POLLUTION CONTROL BOARD

Parivesh Bhawan, East Arjun Nagar
Delhi-110032
Tel: +91 - 11 - 22305792, 22302073
Fax: +91 - 11 - 22307079
e-mail- cpcb@alpha.nic.in
Website- www.cpcb.nic.in



GTZ-ASEM

Indo-German Environment Programme
A-33, Gulmohar Park, New Delhi-110049
Tel: +91 - 11 - 26611021, 26528840
Fax: +91 - 11 - 26537673
e-mail- info@asemindia.com



Bundesministerium für
wirtschaftliche Zusammenarbeit
und Entwicklung



GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS

जहाँ है सौभाग्यी ।
वहाँ है सुशासनी ॥