



sembcorp

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Laboratory Services



A trusted provider of environmental testing services



SINGAPORE APEX
CORPORATE
SUSTAINABILITY
AWARDS 2023



Accredited
Laboratory
SAC-SINGLAS
LA-2022-0801-F





Analytical Testing Laboratory

- Recognised international standard ISO/IEC 17025:2017 for environmental testing.
- Specialist in testing and managing environmental tests.



Trade Effluent

For NEA & PUB discharge limit control parameters



Process & Clean Water

Boiler water, steam, condensate and demineralised water



Wastewater

Wastewater control parameters



Solid & Energy

Energy feed, waste elements and calorific values

Research & Development Laboratory

Equipped to conduct treatability assessments of different types of wastewater, as well as cost-optimisation and troubleshooting studies to improve plant efficiencies.



Wastewater Treatability Studies

- Overall treatability assessment of wastewater
- Biodegradability rate of wastewater
- Simulation of treatment processes
- Impact assessment on existing treatment facilities
- Projection of treatment performance and treatment costs



Process Troubleshooting & Optimisation

- Biological system monitoring
- Early toxicity detection
- Process optimization projects

What We Offer



Analytical Services



Comprehensive Testing



Test Reports

Energy-related Testing

Equipped to test energy feed such as biosludge, woodchip, oily sludge, coal, ash, other fuel oils and diesel.

The test areas are:

Higher Heating Value (HHV) MJ/kg	Carbon, Hydrogen, Nitrogen and Sulphur, wt% by CHNS Analyzer
Lower Heating Value (LHV) MJ/kg	Fluoride, Chloride, Bromide, Sulphur by combustion / IC, wt%
Water / Moisture Content (Distillation / Volumetric Karl Fisher / Gravimetric), wt%	Elements by XRF, wt% to wt ppm (more than 40 elements such as Na, Mg, Al, S, PB, etc)
Inherent Water (Moisture), wt% by Gravimetric	Ash Content, wt%vav
Volatile Matter, wt%	

Water-related Testing

Our testing parameters cover a wide range of components. We conduct detailed tests and measurements to provide a comprehensive report.

Aggregate Organic Constituents

Biological Oxygen Demand (BOD)*	Oil & Grease (HC & non-HC),*	Surfactant – Non ionic (as MBAS)
Chemical Oxygen Demand (COD)*	Phenolic Compounds (as Phenol)*	Total Organic Carbon (TOC)*
Cyanide (as CN)*	Surfactant – Anionic*	
Oil & Grease (Total)*	Surfactant – Cationic	

Physical & Aggregate Properties

Colour (Hazen and Lovibond units)*	Specific Oxygen Uptake Rate (SOUR)
Conductivity	Total Dissolved Solids (TDS)*
Mixed Liquid Suspended Solids (MLSS)	Total Hardness (TH)
Mixed Liquid Volatile Suspended Solids (MLVSS)	Total Suspended Solids (TSS)*
Oxygen Uptake Rate (OUR)	Turbidity (NTU)
pH Value*	Volatile Fatty Acid (VFA)
Total Alkalinity	Volatile Suspended Solids

Non-Metallic Constituents & Chemical Contaminants

Ammonia (NH ₃ -N)	Total Kjeldahl Nitrogen (TKN)	Bromide (as Br)
Ammonia (NH ₃ -N) (Distillation)*	Total Phosphorus (as P)	Nitrate (as NO ₃)*
Silica (as SiO ₂)	Fluoride (as F)*	Phosphate (as PO ₄)*
Sulphide (as S ²⁻)*	Chloride (as Cl)*	Sulphate (as SO ₄)*
Total Nitrogen	Nitrite (NO ₂)	Chlorine (Free)*

Metal Elements

Aluminum (as Al)	Chromium (as Cr)*	Selenium (as Se)*
Arsenic (as As)*	Iron (as Fe)*	Silica (as SiO ₂)
Barium (as Ba)*	Lead (as Pb)*	Silver (as Ag)*
Beryllium (as Be)*	Magnesium (as Mg)*	Sodium (as Na)
Boron (as B)*	Manganese (as Mn)*	Strontium (as Sr)
Cadmium (as Cd)*	Mercury (as Hg)*	Tin (as Sn)*
Calcium (as Ca)	Molybdenum (as Mo)	Zinc (as Zn)*
Copper (as Cu)*	Nickel (as Ni)*	

*Accredited under Singapore Accredited Council (SAC) Certificate of Accreditation No. LA-2022-0801-F



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