



Environment Protection Training & Research Institute

LIST OF PARAMETERS BEING ANALYSED AS PER EP ACT RECOGNITION

A) Physical Tests :

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Conductivity	1.	Flocculation test (Jar test)
2.	Colour	2.	Odour
3.	pH	3.	Salinity
4.	Fixed & volatile solids	4.	Settleable solids
5.	Total solids	5.	Sludge volume index (SVI)
6.	Total dissolved solids		
7.	Total suspended solids		
8.	Turbidity		
9.	Temperature		
10.	Velocity & discharge Measurement of industrial effluent stream		

B) Inorganic

(i) General & Non-metallic

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Acidity	1.	Bromide
2.	Alkalinity	2.	Carbon dioxide
3.	Ammonical nitrogen	3.	Chlorine demand
4.	Chloride	4.	Iodine
5.	Chlorine residual	5.	Sulphite
6.	Dissolved oxygen	6.	Silica
7.	Fluoride	7.	Cyanide

8.	Total hardness	8.	Sulphide
9.	Total kjehldal nitrogen (TKN)		
10.	Nitrite nitrogen		
11.	Nitrate nitrogen		
12.	Phosphate		
13.	Sulphate		

ii) Trace Metals

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Boron (B)	1.	Arsenic (As)
2.	Cadmium (Cd)	2.	Aluminium (Al)
3.	Calcium (Ca)	3.	Beryllium (Be)
4.	Chromium (Cr) Total	4.	Barium (Ba)
5.	Chromium (Cr) Hexavalent	5.	Lithium (Li)
6.	Copper (Cu)	6.	Manganese (Mn)
7.	Iron (Fe)	7.	Selenium (Se)
8.	Lead (Pb)	8.	Silver (Ag)
9.	Magnesium (Mg)	9.	Strontium (Sr)
10.	Mercury (Hg)	10.	Tin (Sn)
11.	Nickel (Ni)	11.	Antimony (Sb)
12.	Potassium (K)	12.	Cobalt (Co)
13.	Sodium (Na)	13.	Vanadium (V)
14.	Sodium absorption ratio (SAR)		
15.	Zinc (Zn)		

(C) Organics (General) and Trace Organics

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Bio-chemical oxygen demand (BOD)	1.	Total organic carbon (TOC)
2.	Chemical oxygen demand (COD)	2.	
3.	Oil & Grease	3.	Surfactants
4.	Phenol	4.	Tannin & lignin
5.	Pesticide (each)	5.	Poly-chlorinated biphenyl (PCB's) each
	(i) Organo-chlorine (BHC, DDT, Aldrin, Endosulphan)	6.	Polynuclear aromatic hydrocarbon (PAH) each
	(ii) Organo nitrogen-phosphorous (Malathion, methyl parathion, Chloropyriphos)	7.	Organic Carbon (in solid)
		8.	Carbon/Nitrogen ratio

D) Microbiological Tests

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Total Coliform	1.	Total plate count
2.	Faecal Coliform	2.	Enterococcus
3.	Faecal Streptococci	3.	Coliphage
4.	E. Coli		

E) Toxicological Tests

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)	1.	Bio-accumulation, bio magnification and bio-transformation studies
		2.	Estimation of the effect at tissue level
		3.	Measurement of toxicity using Daphnia or other organism
		4.	Measurement of toxicity factor using zebra fish (dimensionless toxicity test

F) Biological Tests

S. No.	Parameter	S. No.	Parameter
1.	Benthic organism identification and count	5.	Saprobity Index
2.	Macrophytic identification	6.	Chlorophyll
3.	Planktonic identification count	7.	Primary productivity
4.	Measurement of various diversity index	8.	P/R Ratio

G) Characterization of Hazardous Waste

S. No.	Parameter
1.	Preparation of Leachate (TCLP extract/water extract)
2.	Corrosivity
3.	Ignibility (Flash point)

4.	Reactivity
5.	Toxicity
6.	Measurement of heavy metals/pesticides in the waste/leachate

H) Soil/Sludge/Sediment and Solid Waste

S. No.	Mandatory parameter	S. No.	Secondary parameter
1.	Boron	1.	Ammonia
2.	Cation Exchange Capacity (CEC)	2.	Bicarbonate
3.	Electrical Conductivity (EC)	3.	Calcium
4.	Nitrogen available	4.	Calcium carbonate
5.	Organic carbon/matter (chemical method)	5.	Chloride
6.	pH	6.	Colour
7.	Phosphorous (available)	7.	Exchangeable sodium percentage (ESP)
8.	Phosphate (ortho)	8.	Gypsum requirement
9.	Phosphate (total)	9.	H. Acid
10.	Potassium	10.	Heavy metal
11.	SAR in soil extract	11.	Magnesium
12.	Sodium	12.	Mechanical soil analysis
13.	Soil moisture	13.	Nitrate
14.	TKN	14.	Nitrite
15.	Calorific value	15.	PAH
		16.	Pesticide
		17.	Potash (available)
		18.	Sulphate
		19.	Sulphur
		20.	TOC
		21.	Total water soluble salt
		22.	Water holding capacity

AIR QUALITY PARAMETERS

A. Ambient Air / Fugitive Emissions

S. No.	Group of parameter
(i)	<i>Mandatory Parameters</i>
1.	Nitrogen dioxide as NO₂
2.	Sulphur dioxide (SO₂)
3.	Total suspended particulate matter
4.	Respirable suspended particulate matter (PM₁₀)
(ii)	Secondary Parameters
1.	Ammonia
2.	Carbon monoxide
3.	Chlorine
4.	Fluoride
5.	Non methane hydrocarbon
6.	Lead
7.	Methane
8.	Ozone
9.	Benzene Toluene Xylene (BTX)
10.	Polycyclic aromatic hydrocarbon (PAH) Benzo-a-pyrine & others
11.	PM_{2.5}
12.	Volatile Organics Carbon

B. Stack gases/source emission

S. No.	Group of parameter
(i)	<i>Mandatory Parameters</i>
1.	Particulate matter
2.	Sulphur dioxide
3.	Velocity & flow
4.	Carbon dioxide
5.	Carbon monoxide
6.	Temperature
7.	Oxygen
8.	Oxides of nitrogen
(ii)	Secondary Parameters
1.	Acid mist
2.	Ammonia
3.	Chlorine
4.	Fluoride (Particulate)
5.	Fluoride (Gaseous)
6.	Hydro-chloric acid
7.	Total Hydro carbon
8.	Hydrogen Sulphide
9.	Carbon disulphide
10.	Mercaptan

C. *Noise level*

S. No.	Group of parameter
(i)	<i>Mandatory Parameters</i>
1.	Noise level measurement (20 to 140 dba)
2.	Ambient Noise & Source specific noise

D. **Meteorological Monitoring**

S. No.	Group of parameter
(i)	<i>Mandatory Parameters</i>
1.	Ambient Temperature
2.	Wind direction
3.	Wind speed
4.	Relative Humidity
(ii)	Secondary Parameters (Minimum required at least one parameter)
1.	Solar radiation
2.	Rain fall

E. **Vehicular Emission Monitoring**

S. No.	Group of parameter
(i)	<i>Mandatory Parameters</i>
1.	Carbon monoxide
2.	Smoke Density
3.	Hydrocarbon
(ii)	Secondary Parameters (Optional)
1.	Oxides of Nitrogen/Formaldehyde