

LIST OF ABBREVIATIONS

Abbreviations	Full Form
AAS	Atomic Absorption Spectroscopy
APHA	American Public Health Association
AQ	Aqueous
ATCC	American Type Culture Collection
BET	Brunauer-Emmet-Teller
CAGR	Compound annual growth rate
C _{aq}	Concentration of aqueous phase
C _{org}	Concentration of organic phase
D2EHPA	di(2-ethylhexyl)phosphoric acid
DLS	Dynamic Light Scattering
E(10)	10% Ethanolic oxalic acid solution
E(25)	25% Ethanolic oxalic acid solution
E(50)	50% Ethanolic oxalic acid solution
EDX	Energy-Dispersive X-ray spectroscopy
ELCINA	Electronics Industries Association of India
ELM	Emulsion Liquid Membrane
EN	European Norm
EW	Electrowinning
FESEM	Field Emission Scanning Electron Microscopy
FTIR	Fourier-Transform Infrared Spectroscopy
GC	Gas Chromatography
ICP-OES	Inductively Coupled Plasma-Optical Emission Spectroscopy

ICSG	International Copper Study Group
IPC	Institute of Printed Circuits
JCPDS	Joint Committee on Powder Diffraction Standards
KBr	Potassium bromide
LIX	Liquid Ion Exchanger
MESER	Microwave amplification by stimulated emission of radiation
O/A	Oil to Aqueous phase ratio
PAHs	polycyclic aromatic hydrocarbons
PCBs	Printed Circuit Boards
PL	Photoluminescence
PS	Precipitation- Stripping
PSD	Particle Size Distribution
REE	Rare Earth Element
SX	Solvent extraction
TBP	Tri-n-butylphosphate
TGA	Thermogravimetric analysis
TLC	Thin Layer Chromatography
WHO	World Health Organization
XRD	X-ray Diffraction
XRF	X-ray spectrometry