

GLOSSARY FOR ABBREVIATIONS AND SYMBOLS

ABBREVIATIONS/ SYMBOLS	EXPLANATION
%	Percentage
[S]	Substrate concentration
[V]	Reaction velocity
AFM	Atomic Force Microscope
APHA	American Public Health Association
b	Langmuir isotherm constant
CE	Counter electrode
C_e	Equilibrium metal ion concentration in solution (mg/L)
C_i	Final concentration
cm	Centimeter
C_o	Initial concentration
Cr	Chromium
Cr III	Trivalent chromium
Cr VI	Hexavalent chromium
Cys	Cysteine
E	Mean free energy of sorption per molecule of the sorbate when it is solution
EDS	Energy Dispersive X-ray Spectroscopy

ABBREVIATIONS/ SYMBOLS	EXPLANATION
EDTA	Ethylenediaminetetraacetic acid
FTIR	Fourier Transform Infra-Red spectroscopy
g	Gram
g/L	Grams per litre
GPES	General Purpose Electrochemical Software
h	Hour
Hz	Hertz
I	Intermediate
IDLH	Immediately Dangerous to Life and Health
IMViC	Indole Methyl Red Voges Proskauer Citrate utilization test
K _F	Freundlich constant
L	Litre
LB	Luria-Bertani agar and broth media
m	Metre
M	Amount of the biomass used in the reaction mixture
mA	Milli Ampere
Mg/g	Milligram per Gram
mg/Kg	Milligram per Kilogram
mg/L	Milligrams per litre
mg/mL	Milligram per milliliter

ABBREVIATIONS/ SYMBOLS	EXPLANATION
MIC	Minimum Inhibitory Concentration
min	Minute
mL	Milliliter
mm	Millimeter
mM	Millimolar
mol	Gram mole
mV	Milli Volt
n	Freundlich exponent
NA	Nutrient Agar medium
NCBI	National Centre for Biotechnology Information (USA)
NIICC, NIIST	Microbial Culture Collection of National Institute for Interdisciplinary Science and Technology (India)
NIOSH	National Institute for Occupational Safety and Health
nM	Nanomolar
nm	Nanomolar
O.D.	Optical Density
°C	Degree Centigrade
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
pH	Reverse logarithmic representation of relative hydrogen ion (H ⁺) concentration

ABBREVIATIONS/ SYMBOLS	EXPLANATION
ppb	Parts per billion
ppm	Parts per million
Q^0	Amount of adsorbate at complete monolayer coverage (mg/g)
q_e	Amount of metal adsorbed (mg/g) on the beads-biomass, at equilibrium
Q_m	Dubinin-Radushkevich monolayer capacity
R	Gas constant ; 8.31 J/(mol K)
R^*	Resistant
RE	Reference electrode
rpm	Rotations per minute
rRNA	Ribosomal ribonucleic acid
S	Sensitive
sec	Second
SEM	Scanning Electron Microscope
t	Time
T	Absolute temperature, K
TEM	Transmission Electron Microscope
TSB	Trypticase Soy Broth
UV	Ultra violet
V	Volt

ABBREVIATIONS/ SYMBOLS	EXPLANATION
V	Volume of the medium (L)
v/v	Volume by volume
vis	Visible
vs	Versus
w/v	Weight by volume
w/w	Weight by weight
WE	Working electrode
WHO	World Health Organization
XRD	X-Ray Diffractometer
ϵ	Polanyi potential which is related to the equilibrium concentration
κ	Constant related to adsorption energy
μg	Microgram
$\mu\text{g/L}$	Micrograms per litre
$\mu\text{g/m}^3$	Microgram per cubic metre
$\mu\text{g/mL}$	Microgram per milliliter
$\mu\text{g/mL/h}$	Microgram per milliliter per hour
μM	Micromolar
μm	Micrometer