Environmental Chemistry

Standard Abbreviations

**General**

FT Fourier transform
IR infrared
FIR far-IR
NIR near-IR
UV ultraviolet
UV/Vis ultraviolet-visible
STP standard temperature and pressure
id internal diameter
od outer diameter

**Methods and Techniques—Spectroscopy and Microscopy**

AAS atomic absorption spectroscopy
CVAAS cold vapour AAS
FAAS flame AAS
HGAAS hydride generation AAS
ICP inductively coupled plasma
NMR nuclear magnetic resonance
OES optical emission spectroscopy
SEM scanning/surface (reflection) electron microscopy
STM scanning tunnelling (electron) microscopy
XRD X-ray diffraction
XRF X-ray fluorescence

**Methods and Techniques—Mass Spectrometry**

MS mass spectrometry
EI electron ionization
ESI electrospray ionization
FAB fast atom bombardment
ICP-MS inductively coupled plasma–MS
MS/MS MS coupled to MS
MS" multiple mass spectrometry
SIMS secondary ion mass spectrometry
TOF time of flight

**Methods and Techniques—Analysis, Assay, and Separation**

CE capillary electrophoresis
CZE capillary zone electrophoresis
ELISA enzyme linked immunosorbent assay
GC gas chromatography
HRGC high resolution GC
GC-MS gas chromatography–mass spectrometry
NAA neutron activation analysis
TLC thin layer chromatography
HPTLC high performance TLC
LC liquid chromatography
HPLC high performance LC
LC-MS liquid chromatography–mass spectrometry
TGA thermogravimetric analysis

**Detection**

DAD diode array detector
FD fluorescence detection
FID flame ionization detector
FPD flame photometric detector
LOD limit of detection
LOQ limit of quantification
ppb parts per billion (10^-9; ng g^-1)
ppm parts per million (10^-6; µg g^-1)
ppt parts per trillion (10^-12; pg g^-1)
SCE standard calomel electrode

**Data Processing and Statistics**

ANOVA analysis of variance
cpm counts per minute
rms root mean square
rpm revolutions per minute
RSD relative standard deviation
SIMCA soft independent modelling of class analogy
S/N signal-to-noise ratio
r correlation coefficient
s standard deviation of sample
σ population standard deviation

**Materials**

CRM certified reference material
DNA deoxyribonucleic acid
EDTA ethylenediamine tetraacetic acid
PAHs polycyclic aromatic hydrocarbons
PCBs polychlorinated biphenyls
PCDDs polychlorinated dibenzo-p-dioxins
PCDFs polychlorinated dibenzofurans
PTFE polytetrafluoro ethylene
PVC polyvinyl chloride
RNA ribonucleic acid
SRM standard reference material
TOC total organic carbon
TMS trimethylsilane
Tris 2-amino-2-(hydroxymethyl)-propane-1,3-diol

**Organizations**

AOAC Association of Official Analytical Chemists
ASTM American Society for Testing and Materials
CEN European Committee for Standardization
EPA Environmental Protection Agency
NIST National Institute of Standards and Technology

**Environmental**

APCI atmospheric pressure chemical ionization
API atmospheric pressure ionization
BOD biochemical oxygen demand
COD chemical oxygen demand
DO dissolved oxygen
TEQ toxicity equivalent quotient