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Terms for analytical chemistry

分析化学术语

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 14666-2003 "Analytical Chemistry Terminology". Compared with GB/T 14666-2003, except for structural adjustment and editing, In addition to the changes in performance, the main technical changes are as follows.

- a) The description of the scope has been changed (see Chapter 1, Chapter 1 of the 2003 edition);
 - b) Added a chapter on "Basic Chemistry" (see Chapter 3) and adjusted some terms in the chapter on "Chemical Analysis" in the 2003 edition to this chapter In addition, "matrix" (see 3.3), "certified reference material" (see 3.6.3), "reference reagent" (see 3.6.4), and "electrochemical separation" are added.
- analysis", "spectral analysis", "chromatographic analysis", "mass spectrometry", "nuclear magnetic resonance spectroscopy", "thermal analysis", "structural analysis" (see 3.27~3.32, 3.37) terms and definitions; changed "chemical reagents" (see 3.4, 2003 edition

2.3.1), "constant analysis" (see 3.34.1, 2.2.5) Definition of terms in the 2003 edition;

c) Added a chapter on "Sampling and Pretreatment" (see Chapter 4), and adjusted some terms in the chapter on "Chemical Analysis" of the 2003 edition to this chapter. In addition, "sampling scheme", "sampling plan", "sampling system", "simple random sampling", "stratified sampling", "multi-stage sampling" and "Sampling", "systematic sampling", "cluster sampling", "unit product", "batch", "batch", "sample", "sample size", "reduction", "reduction Samples" (see 4.2~4.16), "Counting inspection", "Factory inspection", "Type inspection", "Re-inspection", "Re-test", "Re-examination", "Sample pre-treatment", "dissolution", "dilution", "digestion", "wet digestion", "dry digestion", "microwave digestion" (see 4.18~4.27.3), "ionization", "Microfiltration", "Leaching", "Derivatization", "Enrichment", "Extraction", "Preconcentration (extraction)", "Extractive distillation", "Soxhlet extraction [method]", "microwave assisted extraction [method]", "ultrasound assisted extraction [method]", "supercritical fluid extraction [method]", "pressurized liquid extraction extraction method", "countercurrent extraction method", "solid phase extraction method", "solid phase microextraction method", "membrane extraction method", "purge and trap [Method]" (see 4.33~4.50) terms and definitions; the definition of the term "sampling" (see 4.1, 2.1.1 of the 2003 edition) was changed;

d) In Chapter 5, Chemical Analysis, "Free Acid" (see 5.1.17), "Free Base" (see 5.1.19), "Bromine Index" (see 5.1.24), "Hydroxy value" (see 5.1.26), "Heating loss" (see 5.1.27), "Ignition loss" (see 5.1.28), "Arsenic spot method" (see 5.2.8), "Steaming method" (see 5.1.29), "Heating loss" (see 5.1.21), "Heating loss" (see 5.1.23), "Heating loss" (see 5.1.24), "distillation test" (see 5.2.10), "standard titration solution" (see 5.3.1), "color developer" (see 5.3.7), "extractant" (see 5.3.8), "indicator" (see 5.3.9.5), "flask" (see 5.4.7), "test tube" (see 5.4.8), "colorimetric tube" (see 5.4.9), "pipette" (see 5.4.12), "funnel" (see 5.4.13), "separating funnel" (see 5.4.13.1), "Gooch crucible" (see 5.4.16), "filter membrane" (see 5.4.20) Terms and definitions;

e) In Chapter 5 Chemical Analysis, the following terms were changed. "melting value" (see 5.1.11, 2.1.18 of the 2003 edition), "ester value" (see 5.1.22, 2.1.46 of the 2003 edition), "potassium dichromate titration [method]" (see 5.2.3.2, 2.2.20.2 of the 2003 edition), "non-aqueous titration [method]" (see 5.2.5, 2.2.22 of the 2003 edition), "stock solution" (see 5.3.2, 2.3.5 of the 2003 edition), "analytical balance" (see 5.4.1, 2.4.1 of the 2003 edition), "weight" (see 5.4.2, 2.4.2 of the 2003 edition) definition of term;

f) In Chapter 5, Chemical Analysis, the terms "chemical metric point", "semi-micro analysis", "micro analysis", "ultra-micro analysis" and "trace analysis" have been deleted.

Analysis", "Ultra-trace analysis", "Dry method", "Wet method", "Gas analysis", "Pipe blow test" (see 2003 edition 2.1.24, 2.2.6~2.2.12, 2.2.18, 2.2.28) Terms and definitions;

g) In Chapter 6, Electrochemical Analysis, "Electrolyte" (see 6.1.2), "Electroactive Substances" (see 6.1.4), "Interface" (see 6.1.5), "Double layer", "diffusion",

"electromigration", "electrodialysis" (see 6.1.10 to 6.1.13), "current-potential curve" (see 6.1.15), "safety "amperometric method" (see 6.2.1), "chronoamperometric method" (see 6.2.1.2), "constant potential amperometric titration" (see 6.2.1.3), "potential method" (see 6.2.2), "Chronopotentiometry" (see 6.2.2.2), "Conductivity method" (see 6.2.3), "Chronocoulometry" (see 6.2.4.3), "Electrolysis method" (see 6.2.5), "Cyclic voltammetry", "Stripping voltammetry" (see 6.2.8.1, 6.2.8.2), "Adsorption stripping voltammetry" (see 6.2.8.5), "Electrodeposition voltammetry" Chemical impedance spectroscopy" (see 6.2.12), "electrochemical cell" (see 6.3.1), "galvanic cell" (see 6.3.2), "three-electrode cell" (see 6.3.4), "Anode" (see 6.3.7), "Cathode" (see 6.3.8), "Working Electrode" (see 6.3.12), "Auxiliary Electrode" (see 6.3.13), "Metallic Electrode" (see 6.3.14), "electrode" (see 6.3.18), "carbon electrode", "glassy carbon electrode", "carbon fiber electrode", "composite electrode", "combined (composite) electrode", "microelectrode "electrode", "nanoelectrode", "enzyme electrode", "chemically modified electrode", "electrochemical biosensor" (see 6.3.19, 6.3.19.1, 6.3.19.3, 6.3.20~6.3.26), "Electron Transfer Number" (see 6.4.1), "Apparent Electron Transfer Number" (see 6.4.4, 6.4.5), "limiting diffusion current" (see 6.4.16), "double-layer charging current", "instantaneous current", "square wave current", "electrode potential", "Standard electrode potential", "Applied potential" (see 6.4.18 to 6.4.23), "Equilibrium [electrode] potential" (see 6.4.25), "Electrode surface potential" "Accumulation", "drip time" and "scan rate" (see 6.4.34 to 6.4.36) terms and definitions;

h) In Chapter 6, Electrochemical Analysis, the terms "supporting electrolyte" (see 6.1.3, 3.4.3 of the 2003 edition) and "base solution" (see 6.1.6, 3.4.2 of the 2003 edition), "ion mobility" (see 6.1.14, 3.1.13 of the 2003 edition), "amperometric titration [method]" (see 6.2.1.1, 3.2.1 of the 2003 edition, "amperometric titration"), "coulometric method" (see 6.2.4, 3.2.5 of the 2003 edition), "coulometric titration" "Controlled Potential Coulometry" (see 6.2.4.1, 3.2.5.1 of the 2003 edition), "Cathode Coulometry" (see 6.2.4.2, 3.2.5.1.1 of the 2003 edition), "Cathode Stripping Voltammetry" (see 6.2.8.3, 3.2.10.1 of the 2003 edition), "Cathode Stripping Voltammetry" (see 6.2.8.4, 2003 edition) 3.2.10.2), "Permanent stop titration [method]" (see 6.2.9, 3.2.3 "Permanent stop endpoint [method]" of the 2003 edition), "Electrolytic cell" (see 6.3.3, 3.3.5 of the 2003 edition), "conductivity cell" (see 6.3.5, 3.3.6 of the 2003 edition), "polarizable electrode" (see 6.3.9, 3.3.7.1 "Polarizable Electrodes" of the 2003 Edition), "Non-Polarizable Electrodes" (see 6.3.10, 3.3.7.2 "Depolarizable Electrodes" of the 2003 Edition) "Indicator electrode" (see 6.3.11, 3.3.9 of the 2003 edition), "Reference electrode" (see 6.3.14, 3.3.8 of the 2003 edition), "Standard hydrogen electrode" (see 6.3.15, 3.3.9.1.1 of the 2003 edition), "glass electrode" (see 6.3.17.1, 3.3.9.2.1), "Highly oriented pyrolytic graphite electrodes" (see 6.3.19.2, 3.3.9.8 "pyrolytic graphite electrodes" of the 2003 edition), "conductivity "Conductivity meter" (see 6.3.27, 3.3.2 of the 2003 edition "Conductivity meter"), "Polarograph" (see 6.3.30, 3.3.4 of the 2003 edition), "Cathode "Current" (see 6.4.8, 3.4.9 of the 2003 edition), "Anode current" (see 6.4.9, 3.4.10 of the 2003 edition), "Power current" (see 6.4.11, 3.4.12 of the 2003 edition), "peak current" (see 6.4.13, 3.4.14 of the 2003 edition), "limiting current" (see

6.4.14, 3.4.15 of the 2003 edition), "diffusion current" (see 6.4.15, 3.4.16 of the 2003 edition), "residual current" (see 6.4.17, 3.4.17 of the 2003 edition), "overpotential" (see 6.4.24, 3.1.6 "overvoltage" of the 2003 edition), "decomposition potential" (see 6.4.26, 3.1.7 "Decomposition voltage" of the 2003 edition), "Peak potential" (see 6.4.30, 3.4.20 of the 2003 edition), "Irreversible polarity" Spectral wave" (see 6.4.32.1, 3.4.18.1 "irreversible wave" of the 2003 edition), "reversible polarographic wave" (see 6.4.32.2, 3.4.18.2 "Reversible wave"), "Polarographic catalytic wave" (see 6.4.32.3, 3.4.18.3 "Catalytic wave" of the 2003 edition), "Isoelectric point" (see 6.4.33, 3.4.22 of the 2003 edition), "diffusion current constant" (see 6.4.37, 3.4.24 of the 2003 edition) definition of terms;

i) In Chapter 6, Electrochemical Analysis, the terms "depolarizer", "[ultra]microelectrode", "Nernst equation", "half-wave potential", "Euclidean potential" were deleted.

"Viche equation" (see 3.4.4, 3.3.9.9, 3.4.7, 3.4.19, 3.4.23 of the 2003 edition) terms and definitions;

j) In Chapter 7, Spectral Analysis, the following sections were added. "Excited states" (see 7.1.5), "Electronic transitions" (see 7.1.7), "Plasma", "Hydride emission" "Fluorescence quenching" (see 7.1.22~7.1.24), "absorption spectroscopy" (see 7.2.5), "ultraviolet-visible absorption spectroscopy" (see 7.2.5.2), "atomic fluorescence spectrometer" (see 7.3.8), "inductively coupled plasma emission spectrometer", "Raman spectrometer", "dry "Involving instruments" (see 7.3.12~7.3.14), "high pressure xenon lamp", "hollow cathode lamp", "Nernst lamp", "flame atomizer", "graphite furnace atomizer", "nebulizer", "monochromator", "charge-coupled device", "inductively coupled plasma torch", "radio frequency generator" (see 7.3.16~7.3.25), "photomultiplier tube" (see 7.3.29), "solid-state detector" (see 7.3.30) terms and definitions;

k) In Chapter 7, Spectral Analysis, the following terms were changed. "[electromagnetic] radiation" (see 7.1.1, 4.1.1 of the 2003 edition), "ground state" (see 7.1.4, 4.1.4 of the 2003 edition), "energy level" (see 7.1.6, 4.1.5 of the 2003 edition), "resonance energy" (see 7.1.8, 4.1.6 of the 2003 edition), "Excitation energy" (see 7.1.9, 4.1.7 of the 2003 edition), "ionization energy" (see 7.1.10, 4.1.8 of the 2003 edition), "spectral line excitation energy" "position" (see 7.1.12, 4.1.10 of the 2003 edition), "spectral line profile" (see 7.1.13, 4.1.11 of the 2003 edition), "characteristic line" (see 7.1.14, 4.1.12 of the 2003 edition), "ion line" (see 7.1.17, 4.1.15 of the 2003 edition), "atomic emission spectrum" (see 7.1.18, 4.1.16 of the 2003 edition), "atomic absorption spectrum" (see 7.1.19, 4.1.17 of the 2003 edition), "[molecular] spectral band" (see 7.1.21, 4.1.20 of the 2003 edition), "passband" (see 7.1.25, 4.1.19 of the 2003 edition, "bandpass"), "repetition of wavelength positioning" "Accuracy of wavelength positioning" (see 7.1.28, 4.1.23 of the 2003 edition), "Optical "Last line of spectrum" (see 7.1.29, 4.1.24 of the 2003 edition), "Isoabsorptive point" (see 7.1.32, 4.1.27 of the 2003 edition), "Resolution point" (see 7.1.33, 4.1.27 of the 2003 edition), rate" (see 7.1.35, 4.1.30 of the 2003 edition), "dispersion force" (see 7.1.37, 4.1.32 of the 2003 edition), "linear dispersion rate" (see 7.1.38, 4.1.33 of the 2003 edition), "Stray radiation"