



Standard Practice for Use of CODEN¹

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INTRODUCTION

CODEN are unique, unambiguous identifiers for titles of serial and nonserial publications in all subject areas. CODEN are assigned only by the International CODEN Service. Identifiers resembling CODEN assigned by other than this central agency are not valid CODEN. The word “CODEN” is coined, not an acronym. It should be spelled out entirely in uppercase letters wherever used. The word is both singular and plural.

The use of an identifier such as CODEN was proposed by Charles Bishop, Ph.D. (*American Documentation*, Vol 4, 1953, p. 54.) who also privately published a list of nearly 3000 codes in 1954. Under his direction, both the size of the list and use of the system grew until in 1961, at Dr. Bishop’s suggestion, custody and responsibility for maintaining a list of some 4000 codes were first assumed by ASTM Committee E-13 on Molecular Spectroscopy. During this period, CODEN were assigned by Dr. L.E. Kuentzel of Wyandotte Chemicals Corp. The list was expanded to 25 000 codes and titles and published as *ASTM DS 23*. In addition, a mechanism was established for supplying codes for new periodicals or previously uncoded titles and to issue these as annual supplements. In 1966, the CODEN publication *DS 23 A* was issued with 39 000 entries. In April 1967, the project was moved to the Franklin Institute Research Laboratories, Philadelphia, Pa. In August 1968, supplement *DS 23 A-S1* with 25 000 entries, and in May 1969, supplement *DS 23 A-S2* with 22 500 additional entries were published. In 1970, a new cumulation of the CODEN data base was published by ASTM as *DS 23 B* (109 507 CODEN). Supplements were published in 1972 (*DS 23 B-S1* with 10 033 CODEN) and 1974 (*DS 23 B-S2* with 7736 CODEN). Effective January 1975, responsibility for the assignment of CODEN was transferred to the Chemical Abstracts Service, Columbus, Ohio, and designated the International CODEN Service.

1. Scope

1.1 This practice defines CODEN, how to obtain them, and how they can be used or applied.

1.2 The rules for establishing or selecting the publication title to which a CODEN is assigned, as well as the rules for establishing CODEN are not a part of this practice.²

2. Terminology

2.1 Definitions:

2.1.1 *abbreviated title*—an abbreviated or condensed form of the collective- or monographic-level title of a publication, based on a contraction of primary and a deletion of non-primary title words.

2.1.1.1 *Discussion*—Abbreviated titles are to be based on the following international standards: *ISO 4-1984 (E)*.

Documentation-Rules for the Abbreviation of Title Words and Titles of Publications: List of Serial Title Word Abbreviations and Its Supplements (see Refs 1 and 2).³

2.1.2 *analytical-level title*—the title for a contribution that is included within a monographic- or collective-level work, and that is handled, processed, or referenced as an individual item.

2.1.2.1 *Discussion*—Examples of analytical-level titles include: the title of an article in a journal, a chapter in a book, a filmstrip within a set, or a band on a sound recording disk.

2.1.3 *CODEN*—a six-character, alphanumeric code that provides concise, unique, and unambiguous identification of the titles of serial and nonserial publications in all subject areas.

2.1.3.1 *Discussion*—In CODEN for serial titles, the first five characters are alphabetic, for example, JACSA for *Journal of the American Chemical Society*. CODEN for nonserials are alphanumeric, with the first two characters always numeric and

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² These rules are on file at ASTM Headquarters as a research report and are available at a nominal cost.

³ The **boldface** numbers in parentheses refer to the list of references at the end of this practice.

the next three alphabetic, for example, 16SAU for *Research Frontiers in Fluid Dynamics*.

2.1.3.2 *Discussion*—The sixth character of the CODEN is an alphabetic or numeric check digit which is added to permit computer verification of the preceding five characters, for example, JACSAT and 16SAU9 (see Section 3).

2.1.3.3 *Discussion*—The publication titles to which CODEN are assigned are, in the case of serials and multivolumed nonserials, those titles only at the collective level. For single-volume nonserials, CODEN are assigned to titles only at the monographic level.

2.1.4 *collective-level title*—the title associated with a number of separate serial or nonserial works issued in succession, normally by the same publisher in a uniform style, and related to one another by a common title.

2.1.5 *monographic-level title*—the chief, distinguishing title for a single-volume nonserial; the title unique to each single volume in a multivolumed set; or, for serial publications, the title unique to a single issue.

2.1.6 *nonserial*—a work on a particular subject that is complete in one volume or unit or a finite number of volumes or units issued simultaneously or over a finite period of time.

2.1.7 *serial*—a work issued in successive parts, at regular or irregular intervals, usually having numerical or chronological designations, and intended to be continued indefinitely.

2.1.7.1 *Discussion*—Serials include periodicals; newspapers; annual works; reports; journals, memoirs, proceedings, transactions, etc., of societies; and numbered monographic series.

3. CODEN Check Character Assignment

3.1 The check character X is calculated from the following equation:

$$\frac{(11 \times N_1) + (7 \times N_2) + (5 \times N_3) + (3 \times N_4) + (1 \times N_5)}{34} = Q + \frac{X}{34} \quad (1)$$

where each letter in the CODEN is assigned a value (N_1 to 5) based on its position in the alphabet, that is A = 1 . . . Z = 26. The digits 1 through 9 in a CODEN are assigned 27 through 35, and 0 = 36.

3.1.1 For example, for JACSA, the equation becomes:

$$\frac{(11 \times 10) + (7 \times 1) + (5 \times 3) + (3 \times 19) + (1 \times 1)}{34} = 5 + \frac{20}{34} \quad (2)$$

The Q value (5 in this case) is discarded. The X value is then assigned a character as follows: when $X = 1$ to 26, the check character is A to Z; when $X = 27$ to 33, the check character is 2 to 8; when $X = 0$ or 34, the check character is 9. For JACSA where $X = 20$, the check character is T.

4. Obtaining CODEN

4.1 CODEN may be obtained either from published CODEN directories or from the International CODEN Service.

4.2 *CODEN Publications*—The published directories of CODEN should always be consulted before contacting the International CODEN Service for CODEN assignment. For information on the currently available directories of published CODEN, contact the International CODEN Service (see 4.3.1).

4.3 International CODEN Service:

4.3.1 Requests for CODEN assignments require no special forms, and should be made via mail, TWX or telephone to:

International CODEN Service
c/o Chemical Abstracts Service
2540 Olentangy River Rd.
P.O. Box 3012
Columbus, Ohio 43210-0012
U.S.A.
Telephone: (614) 447-3600 x3163
FAX: (614) 447-3746
E-mail: CODEN@cas.org

4.3.2 *Mailed Requests for CODEN Assignments*—Requests must be accompanied by sample issues of the publication or by a photocopy of the cover and the title page of the publication. Requests for CODEN for serial publications should also be accompanied by a photocopy of the masthead. Permanent CODEN will be assigned only upon provision of proof, as specified above, that the publication for which a CODEN is being requested exists.

4.3.3 *Requests for CODEN Transmitted by FAX, Telephone, or E-mail*—Requests must include the complete title of the publication, the name of the publisher, and the name of the city and country of publication. For such requests, provisional CODEN will be assigned. In order for CODEN assignments to be made permanent, requesters must provide proof that the publications assigned CODEN exist by supplying photocopies of covers, title pages, and mastheads (for serials). If such proof is not supplied to the International CODEN Service within 30 days, the provisional CODEN will be canceled and the requester so notified.

5. Uses of CODEN

5.1 CODEN are used to aid in the storage and retrieval of information linked to published literature, to help in the preparation of bibliographies or compilation or references, and to improve general communication involving references to published material. As concise, accurate identifiers for the titles of publications, CODEN permit significant space savings in records supporting receipt, routing, referencing, and processing of published material. CODEN also bring more accuracy to the processing of publication titles by precluding ambiguity and confusion in title selection, entry, and citation. Specific uses of CODEN are listed as follows.

5.2 The UNISIST/ICSU AB/ISDS-coded bibliographic strip (3) is designed to provide accurate, unambiguous, and concise identification of serial publications or articles included in serials and as such, includes the CODEN as one element of the strip. Also included in the strip are such data as volume number, issue number, inclusive pagination, and date of publication. Such precise identification is essential to efficient and effective transfer of information from producers of the serial literature to the users. In computer-based bibliographic control and information processing systems, use of accurate, highly compact identification codes becomes an economic necessity. Printing of the coded bibliographic strip by publishers on the covers of their primary and secondary publications ensures this identification.

5.2.1 The adoption of the use of the coded bibliographic strip by primary and secondary serial publishers as an identifier

for issues of serials and articles contained within these issues is encouraged by the following organizations: The United Nations Educational, Scientific, and Cultural Organization (UNESCO), the International Council of Scientific Unions Abstracting Board (ICSU AB), and the International Serials Data System (ISDS). Full information on the coded bibliographic strip is available from *Guidelines for the Coded Bibliographic Strip for Serial Publications* (3).

5.2.2 Examples of the coded bibliographic strip are as follows:

5.2.2.1 *Journal Issue Reference:*

Journal of Neurochemistry, Vol 15, No. 7, 1968, pp. 597–622.

CODEN: JONRA9 15(7)597–622 (1968)

5.2.2.2 *Journal Article Reference:*

Annales Academiae Scientiarum Fennicae, Series A4, No. 187, 1972, pp. 1–4.

CODEN: AAFBAU 187 1–4 (1972)

5.3 Library serials check-in systems can effectively use CODEN for the precise identification of serial titles for

recording purposes and as an access key for rapid access to computer-based systems.

5.4 Substitution of CODEN for publication titles on computer data bases is highly effective and efficient in terms of space utilization. It also permits a significantly lower error rate in keyboarding and eliminates proofing and editing of title data through use of a computer edit based on the check character.

5.5 Use of the CODEN as a mechanism to retrieve the standard form of publication title (either full or abbreviated), in addition to the aspect of space utilization, provides titles that are consistently accurate and error-free.

5.6 Use of CODEN in references, both manually generated, as well as those resulting from computer data bases, provides for precise, accurate identification of publication titles, as well as compact citations. CODEN-based bibliographic strips (see 5.2) are brief enough to be used as in-text references. It is recommended that when CODEN are used in references, bibliographies, and other published lists, a CODEN-order index to the abbreviated or full title accompany the publication.

REFERENCES

- (1) International Organization for Standardization, *Documentation-Rules for the Abbreviation of Title Words and Titles of Publications*, 2nd ed., Geneva, Switzerland, c. 1984, 5 pp (ISO 4-1984 (E)).
- (2) International Series Data System, International Centre, *List of Serial Title Word Abbreviations*, 2nd ed., Paris, France, c. 1984, 216 pp.
- (3) United Nations Educational, Scientific, and Cultural Organization (UNESCO), and International Council of Scientific Unions Abstracting Board (ICSU AB), *Guidelines for the Coded Bibliographic Strip for Serial Publications*, Paris, France, 1975, 14 pp.
- (4) United Nations Educational, Scientific, and Cultural Organization, *UNISIST International Serials Data System (ISDS) Guidelines for ISDS*, International Center for the Registration of Serial Publications, Paris, France, May 1973, 58 pp. (SC/WS/538).
- (5) American Society for Testing and Materials, *Form and Style for ASTM Standards*, 10th ed., West Conshohocken, PA, 1996, 58 pp.
- (6) American National Standards Institute, *Periodicals: Format and Arrangement*, New York, NY, 16 pp. (ANSI Z39.1-1977).

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