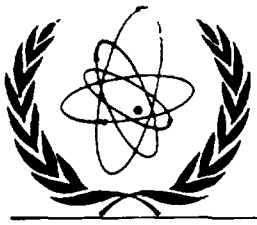
IAEA-NDS-9
Rev. 1



INTERNATIONAL ATOMIC ENERGY AGENCY

NUCLEAR DATA SERVICES

DOCUMENTATION SERIES OF THE IAEA NUCLEAR DATA SECTION

XA9949990

CINDA Formats
(for NDS internal use)

Abstract

This document summarizes different formats of the CINDA file that are in use at the IAEA Nuclear Data Section.

H.D. Lemmel
June 1980

Rev.1 with minor corrections
March 1982

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CINDA Formats

For CINDA coding rules see the CINDA Coding Manual issued by NDCC Saclay (now NEA Data Bank), of which copies are available from NDS.

The present document contains:

CINDA listings sent out to customers of NDS are produced in different ways:

CINDA retrievals based on the complete CINDA file are retrieved from the transmission format (item 2 above) from which the Edited transmission format (item 3 above) or any other output format can be produced. In the latter case headings are provided so that the meaning of the columns is evident.

For standing requests for CINDA retrievals, e.g. for the participants of the actinides CRP, retrievals are made from the Edited Book Tape (item 5 above) which provides speedy transmission of the newest information twice a year to the requestors.

CINDA Dictionaries containing the explanations of the codes used for Quantity, Lab and Reference can be obtained from NDS. They are included in the report IAEA-NDS-2 (also available on microfiche from the IAEA INIS Microfiche Service) and in the CINDA books. Other codes used in CINDA are explained on the reverse side of the NDS CINDA entry form (see page 2).

Numbers: 0, Ø zero; 1 one; 2, Z two; 5 five; 7 seven

Letters: Ø; I, L; Z; S; J

* Leave blank, except compilers at NDS

CINDA ENTRY FORM

IAEA NUCLEAR DATA SECTION

Date ..... Page .....

Compiler ..... Checked .....

Punched ..... Verified .....

WHITE CARDS

* for Delete/Modify same as original

serial-nr for Delete/Modify

Element S	Element A	Q	Lab	Block Nr. *	Compiler *	Operation *	Hierarchy *	Worktype	Energy Min *	Energy Max *	Documentation: Ref Type	RP number page	REPORT number page	Conf	Conf	Jour	Vol	Vol Nr	Paper Nr Page	Ref Date	Author +	Comments e.g. Method, Results (state if Graph or Table or NDG)	when Eval modified Serial nr
1 2 3 4 5	6 7 8	9 10 11	12 13 14	15	16	17	18	19 20 21 22 23 24 25 26		27	28 29 30 31 32 33 34 35 36 37 38 39 40 41		42 43 44	45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80										

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

No blank A-field:

H 001
D 002
T 003
HE 004
BE 009
C 012
N 014
Ø 016
F 019
NA 023
AL 027
P 031
SC 045
V 051
MN 055
CØ 059
AS 075
Y 089
NB 093
RH 103
I 127
CS 133
LA 139
PR 141
TB 159
HØ 165
TM 169
TA 181
AU 197
BI 209
TH 232

Compounds:

H WTR Water
H BNZ Benzene
H MTH Methane
H PFN Paraffin
H PHL Phenyls
H PLE Polyeth.
H CXX other org.
D DØ D20 + HDO
D DXX D-comp.
T TXX T-comp.
BEØXI Be-oxides
N AIR Air
N AMM Ammonia
SIØXI Si-oxides
ZRHYD Zr-hydr.
U ØXI U-oxides
others: CMP in A-field

Quantity codes

EVL	Evaluation	N2N	(n,2n)	NF	Fission
TØT	Total	NXN	(n,xn)	RIF	Res Int Fiss
SEL	Elastic	NEM	n Emission	ALF	Alpha
DEL	Diff Elastic	NP	(n,p)	ETA	Eta
PØL	Polarization	ND	(n,d)	NU	Nu
PØT	Potntal Scat	NT	(n,t)	NUD	Delay Neuts
SIN	Tot Inelastic	NHE	(n,He3)	NUF	Frag Neuts
DIN	Diff Inelast	NA	(n,α)	SFN	Spect Fiss n
TSL	Thermal Scat	NNP	(n,np)	SFG	Spect Fiss γ
SCT	Scattering	NND	(n,nd)	FPG	Fiss Prod γ
SNE	Nonelastic	NNT	(n,nt)	FPB	Fiss Prod β
ABS	Absorption	NNA	(n,nα)	NFY	Fiss Yield
RIA	Res Integral			FRS	Frag Spectra
NG	(n,γ)			CHG	Frag Charge
RIG	Res Int Capt			RES	Reson Params
SNG	Spect (n,γ)			STF	Strnth Fnctn
DNG	Inelastic γ			LDL	Lvl Density
NEG	Nonelastic γ			GN	(γ,n)
				GF	Photo Fissn

Data-Type

E Expt
T Theo
R Revw
C Comp
D Eval
M ExTh

Ref-Type

J Jour
R Rept
P Prog
C Conf
S Conf, rpt
B Book
T Diss
W Priv
4 Exfor
3 eval data

Alphabetic Energy-Entries

MAXW	Maxwellian spectrum average
PILE	thermal reactor spectrum average
FAST	fast reactor spectrum average
CØLD	subthermal spectrum average
FISS	fission neutron spectrum average
SPØN	spontaneous fission
NDG	energy not relevant, or: energy not given (better: enter approx. energy)

The codes TR UP (= from threshold and up) are still accepted but should if possible not be used. Instead, approximate energy values should be entered.

Operation:

A single line unblocked, or lines of a new block
B add line to existing block
D delete
M modify
K kill (a whole block)
L link (two blocks)

Hierarchy:

M main publication (almost not used!)
T translation
N not to appear in Cinda book
D data index entry

CINDA Transmission Format

Four times a year NDS receives from NEA-DB the complete CINDA File in the following CINDA Transmission Format:

Record length: 104

Pos.	Length	
1	(1)	Exchange Flag (can be ignored)
2-4	(3)	Lab
5-7	(3)	Z of nuclide
8-10	(3)	A of nuclide
11-12	(2)	Quantity: numerical sorting value
13-15	(3)	Block-Number
16-21	(6)	Serial-Number
22-25	(4)	En-min (input format 14+7 means 1.4E+7eV)
26-29	(4)	En-max
30-31	(2)	Energy Flag (can be ignored)
32-37	(6)	Date of last update
38-39	(2)	Element Symbol
40-42	(3)	Quantity: mnemonic code
43	(1)	Compiler Symbol
44	(1)	Hierarchy: numerical sorting value (the mnemonic code is not stored)
45	(1)	Work-type
46	(1)	Area of Lab (1=NNDC, 2=NEA-DB, 3=NDS, 4=CJD) Note: the country is not stored.
47	(1)	Data Flag
48	(1)	Ref-type
49-62	(14)	Reference
63-64	(2)	Ref-year
65-66	(2)	Ref-month
67	(1)	Author Flag (indicates that first word of next field is an author's name)
68-103	(36)	Author and Comments
104	(1)	Filler (can be ignored)

The file is sorted by: Lab, Z, A, Q, Block-Number, Serial Number.
Note: the hierarchy is not included in the sort-key, so that the line sequence within a block differs from that appearing in the book.

At NDS, the CINDA Transmission Format is converted to the Edited CINDA Transmission Format:

Record length: 120

Pos.	Length	
1-3	(3)	Z of nuclide
5-6	(2)	Element symbol
8-10	(3)	A of nuclide
12-14	(3)	Quantity: mnemonic code
16-18	(3)	Lab
20-22	(3)	Block-Number
24	(1)	Compiler Symbol
26	(1)	Hierarchy: numerical sorting value
28	(1)	Work-type
30-35	(6)	Serial-Number
37-40	(4)	En-min
42-45	(4)	En-max
47	(1)	Ref-type
49-62	(14)	Reference
64-65	(2)	Ref-month
66-67	(2)	Ref-year
69-104	(36)	Author and Comments
106	(1)	Data Flag
108	(1)	Area of Lab
109-111	(3)	blank field (reserved for eventual insertion of country code, which could be created from the lab code by table look-up)
113-118	(6)	Date of last update
120	(1)	Author Flag

Blocks are separated by a blank line: records belonging to the same block are identical in "Z-A-Q-Lab-Blocknr." that is pos. 2-15 in the unedited format resp. 1-22 in the edited format.

NEA-DB Book Tape Format

The contents to be included in a CINDA book is sent by the NEA Data Bank to NDS in the following format:

Record length: 112

Block size: 3360

Record Description

1-20	Sorting key
21-23	Z
24-26	A
27-29	Q
30-34	E-min
35-39	E-max
40-42	Lab
43	Work-type
44	Ref-type
45-58	Reference
59-62	Ref-date
63-98	Comments
99	Data flag
100-102	Block number
103	Energy flag
104-109	Entry date into file (or date of last modification)
110	Author flag
111-112	Blank

See pages A1 to A13 for all details.

Edited CINDA Book Tape Format

This format is used at NDS for input to the photo-typesetting for CINDA book production. (It is also called "NDS Intermediate CINDA Book Tape Format").

Record length: 112

Pos.	Length	
1-3	(3)	Z of nuclide
4-6	(3)	A of nuclide
7-18	(12)	Quantity: edited as in book

Note: Z-A-Quantity = blank indicates a secondary reference pertaining to the same work as above line.

12-23	(5)	En-min: edited
24-28	(5)	En-max: edited
29-31	(3)	Lab
32-35	(4)	Work-type: edited
36-39	(4)	Ref-type: edited
40-57	(18)	Reference
58-60	(3)	Ref-month
61-62	(2)	Ref-year
63-98	(36)	Author. Comments
99-112	(14)	Control characters for the photo-typesetting

CINDA Exchange Format

For the exchange of CINDA updates between NNDC and NEA-DB the following format is used:

Format of BNL Exchange Records.

column	contents	length
1	Operation code (*)	X(1)
2-7	Serial-number	9(6)
8-12	Target (Z-A)	X(5)
13-15	Quantity code (Q)	X(3)
16-18	Laboratory code (LAB)	X(3)
19-21	Block-number	9(3)
22	Worktype code	X(1)
23-27	Emin (**)	X(5)
28-32	Emax (**)	X(5)
33	Hierarchy code	X(1)
34	Reference-type code	X(1)
35-48	Reference	X(14)
49-52	Publication date (YYMM)	9(4)
53	Author flag	X(1)
54-89	Comments	X(36)
90	Reader code	X(1)
91	Area code	X(1)
92-94	Country code	X(3)
95-100	Date of last change (YYMMDD)	9(6)

(*) codes:

BNL	CINDA	description
A	A	add new block
	B	add new entry to existing block
M	M	modify existing entry
D	D	delete entry from existing block
	K	delete all entries of one block

(**) Numeric codes: m.msn for positive energy range limits
-.msn for negative resonance energies

(m: mantissa, n: exponent, s: exponent sign)

New CCDN/NDS Interface Format for CINDA

1. Physical tape format.
2. Record format.
3. Details of fields within record.
4. Operations NDS will perform on each field.
5. Page format of CINDA book.
6. Further improvements NDS could make, given certain guarantees by CCDN.

Appendix.	Table 1	Quantities
	Table 2	Alphabetic energies
	Table 3	Work-type
	Table 4	Ref-type
	Table 5	Ref-month

2 Aug. 1972
P.M.A.

Revised 23 Aug. 1972
Revised 13 Nov. 1972

Note: Revisions of 13 Nov. 1972 are marked by line in the left-hand margin.

New CCDN/NDS Interface Format for CINDA

1. Physical tape format

Record length = 112.

Blocking factor = 20 or 30 in 1980

No header or trailer labels.

No tape-mark at beginning of file.

Tape-mark at end of file.

800 B.P.I.

EBCDIC code. All characters upper-case, except for "alphabetic" energies, which will be mixed upper and lower case.

The records will be ordered as they are to be printed in the book; i.e. by Z-A-Q- main ref date. Compounds will be printed at the end, following FPROD entries.

Only those records which are to be printed will be transmitted; i.e. ZZ-entries will not be included; "no-book" entries will not be included except when they are the only line in a block.

For the CINDA-Supplement file, if anything within a block has been altered since the previous publication, then the whole block will be transmitted, and not just the records altered or added.

The format of all records within the file is the same.

2. Record format

1 - 20	Sorting key
21 - 23	Z
24 - 26	A
27 - 29	Q
30 - 34	E-min
35 - 39	E-max
40 - 42	Lab
43	Work-type
44	Ref-type
45 - 58	Reference
59 - 62	Ref-date
63 - 98	Comments
99	Data flag
100 - 102	Block number
103	Energy flag
104 - 109	Entry date into file (or date of last modification)
110	Author flag
111 - 112	Blank

3. Details of fields within the record

Sorting key. This field is used by CCDN, but is of no use or interest to NDS.

Z. Up to 3 digits; no leading zeroes. (Z = 126 and 127 for MANY and FPROD respectively)

A. Up to 3 digits; no leading zeroes. (A = bbb for natural elements). For compounds only, this field will contain 3 characters. CCDN to supply a list of these codes which are used. (See Table 6)

Q. Up to 3 character code, left adjusted.

Energy. (E-min, E-max). Numeric energies will be of the form n.n ± n or bbb ± n.
Alphabetic energies will be up to 5 characters (upper and lower case) in either E-min or E-max, or may be considered to be concatinated across both fields. If all upper case, then not more than 4 characters in each field or 8 if concatinated. The characters are left adjusted in E-min, and if not concatinated, then in E-max also. Either or both of the two fields may be blank. The energy-flag (col. 103) specifies which type of energy-fields are in the record. (see page A5)

Work-type. 1 character code.

Ref-type. 1 character code.

Reference. 14 character code, as follows:

	Ref-type	1 . 2 . 3 . 4 . 5 . 6 . 7 . 8 . 9 . 10 . 11 . 12 . 13 . 14
J	(Journal)	Code | Volume | Issue | Page
C	(Conference)	Code | Volume | Page
	OR	Code | # | Paper number
R	(Report)	Code-number (page)
W	(Priv.Comm.)	Name
	OR	Journal Code | TO BE PUBL
L	(Book)	Code | Page

Note: - Code, Code-number and Name are alphanumeric, left adjusted.
- Volume, Issue, Page are numeric, right adjusted.
- Paper number is alphanumeric, right adjusted.
B (conference automatically converted) is coded as for C (conference)
P (preprint), Q (progress report) and S (conference report) are coded as for R (report).
T (thesis, dissertation) is coded either as W (private communication) or as R (report)
* (abstract) is coded either as J (journal) or C (conference).

Ref-date. yymm. year, month, All numeric.

Comments. 36 character field.
First item in field is name of author, followed by either '.' or '+'. (See author-flag below).

Data flag. 1 character code.

Block number. 3 digit field. No leading zeroes.

Energy-flag. 1 digit. Used to indicate the different types of energy-fields as follows:

code	meaning
0	E-min and E-max both numeric
1	E-min alphabetic, E-max numeric
2	E-min and E-max alphabetic aligned
3	E-min and E-max alphabetic concatinated
4	E-min numeric, E-max alphabetic
5	E-min and E-max both blank
6	E-min alphabetic, E-max blank
7	E-min numeric, E-max blank
8	E-min blank, E-max numeric
9	E-min blank, E-max alphabetic

(Note: these flags are different from those in internal listings!)

Entry date into file. yymmdd, 6 digits

Author-flag. 1 character. 'X' if first item, up to '.' or '+' in comments field is author's name, otherwise blank.

4. Operations NDS will perform on each field

Z-A. Will be expanded for headings.
Z = 126, will be printed as MANY;
A = 127, will be printed as FPROD.

Q. Codes will be expanded as in Appendix, Table 1.

Energy. (E-min, E-max)
Numerical energies printed as input.*

Alphabetic energies printed as input, in conjuction with energy flag indicating concatination.

Lab. Printed as in input.

Work-type. Expanded as in Appendix, Table 3.

Ref-type. Expanded as in Appendix, Table 4.

Reference. For ref-type = J, B and C, we will make sure there is one, and only one blank between the parts of those fields which are used.

e.g. input: JNE 25 1
output: JNE 25 1

input: NUC 1811 201
output: NUC 18 11 201

For ref-type = C and B, See page A9, 6a

e.g. input: 70MADURA 2 79
output: 70Madurai 2 79

input: 71KNOX 792
output: 71Knox 792

input: 70HELS # 15
output: 70Helsinki # 15

Note: After 1972 the sign "#" was changed to "§" as the sign "#" was not available on the phototypesetting machine.

* Throughout this paper "Input" means as "appearing on interface tape".

For ref-type = *, see Page 10, 6c.

For ref-type = W, if col. 5-14 cf ref-field is 'TO BE PUBL', then print first 4 characters field exactly as input.

For ref-type = R, P, Q, S, T, L, K, A, /, Y, D, 0, 1, 2, 3, 4, Z and blank, the 14 character field is printed exactly as input.

Ref-date The month will be expanded as in Appendix, Table 5. The total date will be printed, for example, Jan67. If mm is not in Table 5, the year only will be printed.

Comments If author-flag = 'X' then:

Locate author's name by scanning for the delimiter '.' or '+'. Put name in lower-case, except for the first letter and the first letter following a blank or a hyphen. (This takes care of names like De Volpi, Wang Long, Robertson-Smith etc.)
Print rest of comments-field in upper-case.

If author-flag unequal 'X' (i.e. = ' ') then:

Print complete field as input.

Note: If author's name (excluding the delimiter) is the same on successive lines within a block, it should not be repeated, but should be replaced by bb-bb and the rest of the comment field moved left.

Data-flag: Any non-blank character will be printed as +. (Meaning data available from a data centre.)

5. Page format of CINDA book

Page size and vertical format remain unchanged. No further reduction in print-size.

The following improvements will be made:

1) The date will be omitted at the top of each page. This is the date on which the file was closed for the publication, and should appear on the title page of the book.

1a) Page number will be printed at the bottom of each page.

1b) Z-Element-A in the heading will be printed only once in the middle of the page, instead of twice (left & right) as at present.

2) Compunds are printed following the FPROD entries. The first compound entry will start on a new page, but thereafter, a change of element will not start a new page, but will be treated as a new isotope, i.e. a new heading.

3) The heading for the energy columns will be "Energy (eV)" and the heading for the comments field will be "Author Comments".

4) The columns will be printed in the following order across the page: - Quantity; Energy; Lab; Work-type; Ref-type; Reference; Ref-date; Comments.

5) All fields will be printed for the first (main) line of a block.

6) A 'block' is defined as records having the same Z, A, Q, Lab, block-number.

After the main line of a block:

- no line numbers will be printed;
- the Quantity and Lab columns will not be printed;
- Energies will, in general, be constant throughout a block, and will therefore only be printed if either E-min or E-max or both differ from the preceding line. However energies will always be printed for data-index lines (i.e. ref-type = D,0,1,2,3,4).
- Work-type will, in general, be constant throughout a block, and will therefore only be printed if it differs from the preceding line;
- Ref-type will be printed on every line.

7) 1-H-2 and 1-H-3 will be printed as 1-Deuterium-002 and 1-Tritium-003 respectively.

6. Further improvements NDS could make, given certain guarantees by CCDN.

Until such time as each of the guarantees can be made for the whole file, the improvement concerned cannot be included.

a. If CCDN can guarantee to supply NDS with a list of all the 8-character conference codes as they will appear on the interface file, for Ref-type = B and C then the following improvement can be made.

For ref-type = B and C, look up 8-character conference code in dictionary and replace it with 10-character code (EXFOR codes). Print all letters in lower-case, except for the first one following the conference-year.

This means that:

65Salzburg would be printed instead of 65Salzbu (EXFOR - 2)
or 65Salzb or 65Salzbg,
both of which appear in present file.

70Madison would be printed instead of 70Madiso.
[Guarantee made, Aug/72 during HDL visit to CCDN]

b. If, for ref-type = W (private communication), CCDN can guarantee that the reference field will contain only

either: Name, and nothing more;
or: Journal code, followed by TO BE PUBL;

then the following action can be taken:

If col. 5-14 of ref-field is 'TO BE PUBL', then journal assumed; print first 4 characters in upper case, and 'TO BE PUBL' in lower-case. Otherwise name assumed; print ref-field in lower case, except for the first character and the first character following a blank or hyphen. (This takes care of names like de Volpi, Wang Long, Robertson-Smith). Note that name field may contain special characters.

Note that, for ref-type = T (thesis, dissertation), if the ref-field is coded with a name (as for ref-type = W), it must be printed in upper-case, because there is no way of distinguishing it from a report-code, which is the other option for ref-type = T.

c. If, for ref-type = * (abstract), CCDN can guarantee that if the ref-field is not coded as a conference, it must be coded as a journal, then the following action can be taken:

If first character of ref-field is numeric, then treat as ref-type = C; otherwise treat as ref-type = J.

[Guarantee made, Aug/72 during HDL visit to CCDN]

Table 1

Code	Expansion
ABS	Absorption
ACT*	Activation
ALF	Alpha
CHG	Frag Charge
DEL	Diff Elastic
DIN	Diff Inelast
DNG	Inelastic γ
ETA	Eta
EVL	Evaluation
FPB **	Fiss Prod β
FPG	FProd γ's
FRS	Frag Spectra
GF	Photo-Fissn
GN	(γ,n)
LDL	Lvl Density
NA	(n,α)
ND	(n,d)
NEG	Nonelastic γ
NEM	n Emission
NF	Fission
NFY	Fiss Yield
NG	(n,γ)
NH	(n,He3)
NHE	(n,He3)
NNA	(n,nα)
NND	(n,nd)
NNP	(n,np)
NNT	(n,nt)
NP	(n,p)
NPR	n Production
NT	(n,t)
NU	Nu
NUD	Delayd Neuts
NUF	Frag Neuts
NXN **	(n,xn) x>2
N2N	(n,2n)
N3N*	(n,3n)
POL	Polarization
POT	Potntal Scat
REM*	Disappearanc
RES	Reson Params
RIA	Res Int Abs
RIF	Res Int Fiss
RIG	Res Int Capt
RIR*	Res Int Act
SCT	Scattering
SEL	Elastic
SFG	Spect Fiss γ
SFN	Spect Fiss N
SIN	Tot Inelastc
SNE	Nonelastic
SNG	Spect (n,γ)
STF	Strnth Fnctn
TOT	Total
TSL	Thermal Scat

Note: α and γ available on pi-grid.
* should no longer occur but still foreseen in NDS programs
** codes added after 1972

Alphabetic Energies — Table 2

Removed. NDS performs no expansion.

Work-type — Table 3

E	Expt
T	Theo
R	Revw
C	Comp
D	Eval
M	ExTh

Ref-type — Table 4

J	Jour
K	Jour
C	Conf
B	Conf
A	Conf
R	Rept
W	Priv
L	Book
P	Prep
Q	Prog
S	Conf
T	Diss
*	Abst
/	Abst
Y	blank
D	Data
0	Data
1	Data
2	Data
3	Data
4	Data
Z	blank
blank	blank

Ref-month Table 5

input	expansion
01	Jan
02	Feb
03	Mar
04	Apr
05	May
06	Jun
07	Jul
08	Aug
09	Sep
10	Oct
11	Nov
12	Dec

Chemical Compounds Table 6

(Table added March 1982)

numeric A	numeric Z	alphabetic Z	alphabetic A	expansion
129	401	H	BNZ	1 H Benzene
129	403	H	CXX	1 H Organic Compounds
129	405	H	MTH	1 H Methane
129	407	H	PFN	1 H Paraffin
129	409	H	PHL	1 H Phenyl
129	411	H	PLE	1 H Polyethylene
129	413	H	WTR	1 H Water
129	435	H	CMP	1 H Compounds
129	435	D	DXX	1 D Compounds
129	437	D	D2O	1 D Heavy Water
129	445	T	TXX	1 T Compounds
132	417	BE	OXI	4 Be Oxide
135	419	N	AIR	7 N Air
135	421	N	AMM	7 N Ammonia Compounds
142	417	SI	OXI	14 Si Oxide
168	423	ZR	HYD	40 Zr Hydride
220	417	U	OXI	92 U Oxide

Others:

Z'	415	SY	CMP	Z Sy Compounds

with Z' = Z + 128, Sy = Element Symbol

In 1982 the headings in the book are changed from previously "1 Hydrogen BNZ" to "1 H Benzene" as in above table.

The book tape received from NEA-DB presently contains Z in numeric form and A in alphabetic form.