

DAF/324-0

MEMO CP-C/31

78/02/09

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Subject: Proposed nuclides dictionary 27

Reference: Memo CP-D/49

We agree to the addition of dictionary 27, however, there we have some disagreements with the proposed format and with the content of the dictionary received.

- 1.) It appears that the dictionary may have been generated from those entries already existing, otherwise, we do not see the logic of which fields have been allowed. Some examples:
 - a.) Many nuclides should have a '2' in Col. 25, Be⁹, B¹⁰, etc.
 - b.) Many nuclides are allowed in CINDA with a 'C', but not in EXFOR.
 - c.) All nuclides with A≠0 should be valid for nuclear quantities.

2.) Natural isotopic mixtures must be allowed in SF4, but not in SF3. The same is true for the codes for 1-H-1, 1-H-2, 1-H-3, etc. Therefore, one code is not sufficient in col. 26.

3.) There seems to be a proliferation of metastable state codes making the dictionary even larger than necessary. The codes -M and -M1 are certainly not both needed, as one implies the other. It is also true that -G implies -M and -M1, although the fields for which they are valid would be different.

These could be combined with the basic code by adding the code -X to the nuclide code, -X meaning that the code may appear with no extensions or with the extensions -G, -M, -M1. Another field could be added to specify the number of metastable states, thus allowing for -M2, etc. Some method of indicating that -G is not allowed for SF1 or SF2 could be devised, i.e., a different code in cols. 24 and 25.

As an alternate proposal we suggest the combining of the metastable state codes into one code -M with a field to specify the number of metastable states.

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4.) We do not agree with the use of the code 'X' in cols. 24 to 27.
Some examples:

a.) 0-G-0 is never allowed in SF3, but will commonly be found in SF4. The same is true for 0-NN-1.

b.) On natural isotopic mixtures we do not agree to the 'X' in col. 24. These will often be found in SF1 from our point of view. The rule that it should not be used is a CINDA rule, not an EXFOR rule. The 'X' should probably go into the CINDA column.

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