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Subject: Memo CP-D/294

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To: Distribution 11 March 1998
From: O.Schwerer
Subject: Comments on TRANS O006 - O008

Please find below our comments on these TRANS files. Errors corrected by NDS are flagged with [NDS], entries where retransmission is requested with *). Versions containing the corrections by NDS are available from the NDS open area.

TRANS O006

General remarks:

- 1)Nuclide codes under RAD-DET and DECAY-DATA should have an isomer code (usually -G or -M) if the nuclide has an isomer registered in dictionary 27. (If there is no isomer, -G must not be used.)
- 2)REL-REF: References by the same group as given under REFERENCE, describing aspects relevant to the present work (e.g. experimental details) must be given under REFERENCE rather than REL-REF. REL-REF is meant for works by other authors (e.g. in case of criticism, comparing results etc.) (O0276, O0277)

O0276.001 line 50: delete redundant pointer (pointer of previous line remains valid until any other pointer appears under same keyword.[NDS])

TRANS O007

- O0288.002 REACTION should be EM/PAR,DA because
1. If projectile = product particle but elastic scatt. excluded:
"emission" cs with EM in SF5
 2. PAR needed because secondary energy given [NDS]

.003-6 add PAR to SF5 [NDS]

O0289.010,015 add EM/PAR to REACTION SF5 [NDS]
.011-14,016-019 add PAR to SF5 [NDS]

- O0290.010,015 add EM/PAR to REACTION SF5 [NDS]
 .011-14,016-019 add PAR to SF5 [NDS]
 O0290.024*) Line 438 E value not monotonic, probably typographic error
- O0291.010,015 add EM/PAR to REACTION SF5 [NDS]
 .011-14,016-019 add PAR to SF5 [NDS]
- O0292.010 add EM/PAR to REACTION SF5 [NDS]
 .011-14 add PAR to SF5 [NDS]
 O0292.015*) Lines 25, 213: E value not monotonic, probably typographic error
- O0293.008,013 add EM/PAR to REACTION SF5 [NDS]
 .008-12 units must be MB/SR rather than MB [NDS]
 .009-12,014-017 add PAR to SF5 [NDS]
 O0293.018*) Line 89 E value not monotonic, probably typographic error
- O0294.011,016 add EM/PAR to REACTION SF5 [NDS]
 .012-15,017-020 add PAR to SF5 [NDS]
 O0294.022*) Line 142 E value not monotonic, probably typographic error
 .024*) Line 52 E value not monotonic, probably typographic error
- O0295.008,013 add EM/PAR to REACTION SF5 [NDS]
 .009-12,014-017 add PAR to SF5 [NDS]
- O0308.004 Lines 10,11 Delete illegal col.80 [NDS]
- O0312.004 add PAR to SF5 [NDS]
- O0320.064 Lines 3-5: one pair of parentheses missing: (() = (()+())) [NDS]
- O0321.002-016*): Inconsistency between REACTION DA/DA/DE and independent variables given. DA/DA/DE requires 2 angles and 1 secondary energy but here 2 secondary energies but no angle are given. Since the data are labelled relative with ARB-UNITS, the dimension of the units does not help to clarify the correct coding. Please either add the needed variables (also constant angles given in COMMON section would be possible) or correct REACTION appropriately. Since 2 secondary energies are given, possible solutions would be DA/DE/DE (which still requires one angle) or just DE/DE (which would have to be added to dict.36). In those subentries with more than one type of outgoing particle, i.e. the subentries with (P,N+P), in addition appropriate codes in REACTION SF7 are needed to define the particles to which the given angles and/or secondary energies belong, e.g. DA/DE/DE,N/N/P (see dictionary 36).
- O0323.043*) Units MU-B/SR inconsistent with REACTION code SIG. Probably units should be MU-B, but this should be checked by originating compiler and be retransmitted.
- O0323.046-049*): ANGLE given which is inconsistent with SF6 = SIG. If this is ordinary integral cross section (which does not depend on angle), ANG in COMMON section should be removed. If this is the differential cross section at the angle given, multiplied by 4PI (therefore having units MB or equivalent), change REACTION to ,DA,,4PI.
- O0323.046,047: Lines 17,18 Delete illegal col.80 [NDS]
- O0334.002,005,006,008,009,011-014: Isomeric fission cross section ratio: since this is numerically identical to a fission yield ratio, we propose to change SIG to FY here. This is also the quantity mentioned in the TITLE and the way these data are usually called and retrieved. [NDS]

O0334.004: This REACTION combination, consisting of 6 individual reactions, must be rewritten to be better retrievable and better readable to the user, even if these 6 reactions were measured individually.

1) Isomeric sums corresponding to the total reaction must be written as simple reaction without any isomer extension, e.g. the sum

(92-U-0(P,F)49-IN-117-M,IND,SIG)+(92-U-0(P,F)49-IN-117-G,IND,SIG) is not legal and must be replaced by the simple reaction

(92-U-0(P,F)49-IN-117,IND,SIG).

2) CD-117(CUM)+IN-117(IND) = IN-117(CUM)

3) Although numerically there is no difference between fission cross section ratios and fission yield ratios, it is recommended to code such data as fission yield ratios because this is the way users will most likely try to retrieve them.

Therefore, the REACTION for this subentry should be simply:

((92-U-0(P,F)49-IN-117,IND,FY)/(92-U-0(P,F)49-IN-117,CUM,FY))

How this was determined (measuring some or all of the 6 individual components originally coded) could be explained in free text. [NDS], retransmission with new free text recommended

O0334.007,010: see comment on subentry 4 above (same case with different fissioning nuclides)

O0336*) and O0337*), all subentries: TITLE says "fission" but all data are coded as (P,X).

Unless there is a reason for this, we propose to change the reactions to (P,F). For the ratios, you might consider to change the coding to FY/RAT (see comment on entry O0334).

O0344.003 Line 9: delete illegal col.80 [NDS]

O0348.001 METHOD: new code JET was proposed earlier, to be approved

O0350, most subentries, and O0361.001: METHOD: new code MASSP was proposed earlier, to be approved

O0350.012,013,017,019,020,022,027 REACTION combination in lines 3-6: outside pair of parentheses missing [NDS]

O0357.002-004: Fission cross section ratios better to be coded as FY ratios?

O0363.003, line 11 and .004-006, line 12: delete illegal col.80 [NDS]

O0365.003, line 8: delete illegal col.80 [NDS]

O0365.003-019*): SIG and units MB incompatible with independent variable ANGLE. Should SF6 be = DA and units be = MB/SR ?

O0374.002-005*): REACTION code KE,FF,REL,EXP not compatible with DATA section. KE,FF is defined as energy of fission fragments (units MEV for DATA). But here the energy of the fission fragments is the independent variable instead of the data measured. Propose to discuss at the forthcoming NRDC meeting how such data should be compiled.

O0374.006-009*): (P,F)MASS,,SIG,REL (with ARB-UNITS): it seems that this could be coded as (relative) mass (chain) yields rather than cross sections.

O0375.006-009*): Probably codes for SF7 should be added to define the kind of angular correlation, e.g. COR,FF/FF (see dictionary 36)

O0379.002,003: REACTION SF5: replace IND by PAR [NDS]

O0379.002, lines 16,17 and .003, lines 17,18: delete illegal col.80 [NDS]

00383.002-004*): REACTION (P,F)MASS,,PY,,,EXP not correct. For fission product yields SF6 must be = FY. Correct code is probably CHN,FY (total chain yield) or perhaps PRE,FY or SEC,FY (primary or secondary fission-fragment yield). See LEXFOR under "Fission Yields".

00383.008-012*): same case as O0374.002-005, see comment on this.

TRANS O008

O0276.001 Line 53: delete redundant pointer [NDS]

O0287.004-009: delete illegal col.80 [NDS]

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