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=====ACTIVATE
PROGRAM ACTIVATE
=====ACTIVATE
VERS. 2000-1 (APRIL 2000) *INITIAL VERSION. ACTIVATE
VERS. 2002-1 (MAY 2002) *OPTIONAL INPUT PARAMETERS ACTIVATE
VERS. 2004-1 (JAN. 2004) *CORRECTED ERROR - FIRST RECORD AFTER ACTIVATE
MF=10 WAS MISSING. ACTIVATE
*ADDED INCLUDE TO DEFINE COMMON ACTIVATE
*INCREASED MAX. POINTS FROM 100,000 ACTIVATE
TO 1,000,000. ACTIVATE
VERS. 2007-1 (JAN. 2007) *CHECKED AGAINST ALL ENDF/B-VII ACTIVATE
VERS. 2007-2 (DEC. 2007) *72 CHARACTER FILE NAMES. ACTIVATE
VERS. 2010-1 (Apr. 2010) *General update based on user feedbackACTIVATE
VERS. 2012-1 (Aug. 2012) *Added CODENAME ACTIVATE
*Added ERROR stop ACTIVATE
*32 and 64 bit Compatible ACTIVATE
VERS. 2015-1 (Jan. 2015) *Corrected ERROR for missing or extra ACTIVATE
SEND and MEND lines. ACTIVATE
*Changed MF=8 pointer from MF=9 to 10.ACTIVATE
*INCREASED MAX. POINTS to 3,000,000. ACTIVATE
*Added Consistency checks, e.g., ACTIVATE
Any MT in MF=9 requires data in MF=3.ACTIVATE
*Extended OUT9 - OUT10 is not used. ACTIVATE
*Only processes ONE ENDF Tape - this ACTIVATE
restriction is necessary to insure ACTIVATE
compatibility with ALL PREPRO codes. ACTIVATE
*Changed to current ENDF sequence ACTIVATE
number convention, e.g., reset numberACTIVATE
for each section (MAT/MF/MT). ACTIVATE
*Replaced ALL 3 way IF statements. ACTIVATE
VERS. 2017-1 (May 2017) *Increased MAX. POINTS to 6,000,000. ACTIVATE
*Do not create MF=10 for any MT that ACTIVATE
already has MF=10 data = copy MF=10 ACTIVATE
data in its original form. ACTIVATE
*Message for every MF=7 output, ACTIVATE
whether created or copied from input.ACTIVATE
VERS. 2018-1 (Jan. 2018) *Updated based on user feedback. ACTIVATE
*Added on-line output for ALL ENDERRORACTIVATE
VERS. 2020-1 (Mar. 2020) *Additional Interpolation Law Tesrs ACTIVATE
*Checked consistency of Maximum ACTIVATE
tabulated energy for MF=3 and 9 data ACTIVATE
to be combined - print WARNING if ACTIVATE
inconsistent. ACTIVATE
*Added Target Isomer State ACTIVATE
VERS. 2021-1 (Jan. 2021) *Updated for FORTRAN 2018 ACTIVATE
VERS. 2023-1 (Feb. 2023) *Reduced page size from 6,000,000 ACTIVATE
to 120,000 ACTIVATE

Acknowledgement 2015
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Currently almost all improvements to this code are based upon ACTIVATE
feedback from code users who report problems. This feedback ACTIVATE
benefits ALL users of this code, and ALL users are encouraged ACTIVATE
to report problems. ACTIVATE

Improvements on the 2015 version of this code based on user ACTIVATE
feedback, including IMPORTANT feedback from Andrej Trkov, up ACTIVATE
to and including Feb. 2015. ACTIVATE

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THE NUCLEAR DATA SECTION ACTIVATE
INTERNATIONAL ATOMIC ENERGY AGENCY ACTIVATE
P.O. BOX 100 ACTIVATE
A-1400, VIENNA, AUSTRIA ACTIVATE
EUROPE ACTIVATE

ORIGINALLY WRITTEN BY
-----
Dermott E. Cullen ACTIVATE

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TRUNCATION OF ENERGIES TO 6 DIGITS DURING OUTPUT.	ACTIVATE
CONTENTS OF OUTPUT	ACTIVATE
-----	ACTIVATE
ENTIRE EVALUATIONS ARE OUTPUT, NOT JUST THE PROCESSED DATA, E.G.,	ACTIVATE
ANGULAR AND ENERGY DISTRIBUTIONS ARE ALSO INCLUDED.	ACTIVATE
DOCUMENTATION	ACTIVATE
-----	ACTIVATE
THE FACT THAT THIS PROGRAM HAS OPERATED ON THE DATA IS DOCUMENTED	ACTIVATE
BY THE ADDITION OF 3 COMMENT LINES AT THE END OF EACH HOLLERITH	ACTIVATE
SECTION IN THE FORM	ACTIVATE
***** PROGRAM ACTIVATE (2023-1) *****	ACTIVATE
FILE 10 ACTIVATION CROSS SECTIONS HAVE BEEN DEFINED BY COMBINING	ACTIVATE
FILE 3 CROSS SECTIONS AND FILE 9 MULTIPLIERS. FILE 9 DELETED.	ACTIVATE
THE ORDER OF SIMILAR COMMENTS (FROM RECENT, SIGMA1 AND GROUPIE)	ACTIVATE
REPRESENTS A COMPLETE HISTORY OF ALL OPERATIONS PERFORMED ON	ACTIVATE
THE DATA BY THESE PROGRAMS.	ACTIVATE
THESE COMMENT LINES ARE ONLY ADDED TO EXISTING HOLLERITH SECTIONS,	ACTIVATE
I.E., THIS PROGRAM WILL NOT CREATE A HOLLERITH SECTION. THE FORMATACTIVATE	ACTIVATE
OF THE HOLLERITH SECTION IN ENDF-5 DIFFERS FROM THE THAT OF	ACTIVATE
EARLIER VERSIONS OF ENDF. BY READING AN EXISTING MF=1, MT=451	ACTIVATE
IT IS POSSIBLE FOR THIS PROGRAM TO DETERMINE WHICH VERSION OF	ACTIVATE
THE ENDF FORMAT THE DATA IS IN. WITHOUT HAVING A SECTION OF	ACTIVATE
MF=1, MT=451 PRESENT IT IS IMPOSSIBLE FOR THIS PROGRAM TO	ACTIVATE
DETERMINE WHICH VERSION OF THE ENDF FORMAT THE DATA IS IN, AND	ACTIVATE
AS SUCH IT IS IMPOSSIBLE FOR THE PROGRAM TO DETERMINE WHAT FORMAT	ACTIVATE
SHOULD BE USED TO CREATE A HOLLERITH SECTION.	ACTIVATE
REACTION INDEX	ACTIVATE
-----	ACTIVATE
THIS PROGRAM DOES NOT USE THE REACTION INDEX WHICH IS GIVEN IN	ACTIVATE
SECTION MF=1, MT=451 OF EACH EVALUATION.	ACTIVATE
THIS PROGRAM DOES NOT UPDATE THE REACTION INDEX IN MF=1, MT=451.	ACTIVATE
THIS CONVENTION HAS BEEN ADOPTED BECAUSE MOST USERS DO NOT	ACTIVATE
REQUIRE A CORRECT REACTION INDEX FOR THEIR APPLICATIONS AND IT WAS	ACTIVATE
NOT CONSIDERED WORTHWHILE TO INCLUDE THE OVERHEAD OF CONSTRUCTING	ACTIVATE
A CORRECT REACTION INDEX IN THIS PROGRAM. HOWEVER, IF YOU REQUIRE	ACTIVATE
A REACTION INDEX FOR YOUR APPLICATIONS, AFTER RUNNING THIS PROGRAM	ACTIVATE
YOU MAY USE PROGRAM DICTIN TO CREATE A CORRECT REACTION INDEX.	ACTIVATE
SECTION SIZE	ACTIVATE
-----	ACTIVATE
SECTIONS OF MF=9 MULTIPLIERS ARE LIMITED TO A MAXIMUM OF 3,000,000	ACTIVATE
ENERGY POINTS.	ACTIVATE
THERE IS NO LIMIT ON THE NUMBER OF ENERGY POINTS IN MF=3 AND 10	ACTIVATE
TABLES = THIS DATA IS READ AS CHARACTERS, ONE LINE AT A TIME.	ACTIVATE
SELECTION OF DATA	ACTIVATE
-----	ACTIVATE
THE PROGRAM PROCESSES ALL ENDF DATA ON ONE ENDF TAPE.	ACTIVATE
2015 - IT NOW ONLY DOES ONE ENDF TAPE.	ACTIVATE
PROGRAM OPERATION	ACTIVATE
-----	ACTIVATE
PASS #1	ACTIVATE
-----	ACTIVATE
THE ENTIRE MAT IS COPIED TO A SCRATCH FILE IN THE ENDF ASCII	ACTIVATE
FORMAT AND WHILE COPYING IT TO SCRATCH MF=3, 9, AND 10 ARE ALSO	ACTIVATE
COPIED TO SEPERATE SCRATCH FILES, I.E., THERE ARE A TOTAL OF 4	ACTIVATE
SCRATCH FILES - SEE THEIR DEFINITIONS BELOW.	ACTIVATE
PASS #2	ACTIVATE
-----	ACTIVATE
IF NO MF=9 MULTIPLIERS ARE FOUND DURING PASS #1, THE ENTIRE MAT	ACTIVATE



IN THIS CASE THE FOLLOWING 2 INPUT LINES ARE REQUIRED	ACTIVATE
ACTIVATE.IN	ACTIVATE
ACTIVATE.OUT	ACTIVATE
EXAMPLE INPUT NO. 2	ACTIVATE
-----	ACTIVATE
SAME AS THE ABOVE CASE, EXCEPT THAT IN THIS CASE THE ORIGINAL	ACTIVATE
TAPE IS IN A DIRECTORY NAMED \ENDFB6\ORIGINAL, AND THE	ACTIVATE
RESULTS WILL BE WRITTEN INTO A DIRECTORY NAMED \ENDFB6\ACTIVATE.	ACTIVATE
IN THIS CASE THE FOLLOWING 6 INPUT LINES ARE REQUIRED	ACTIVATE
\ENDFB6\ORIGINAL\ACTIVATE.IN	ACTIVATE
\ENDFB6\ACTIVATE\ACTIVATE.OUT	ACTIVATE
EXAMPLE INPUT NO. 3	ACTIVATE
-----	ACTIVATE
IF THERE IS NO ACTIVATE.INP FILE, OR THE FILENAMES ARE BLANK	ACTIVATE
THIS CODE WILL USE THE DEFAULT NAMES,	ACTIVATE
ENDFB.IN	ACTIVATE
ENDFB.OUT	ACTIVATE
=====	ACTIVATE