



1 Decay Scheme

H-3 disintegrates 100% by beta-minus decay directly to the ground state of He-3.

Le tritium se désintègre à 100 % par émission bêta moins vers le niveau fondamental d'hélium 3.

2 Nuclear Data

$$T_{1/2}({}^3\text{H}) : 12,312 \quad (25) \quad \text{a}$$

$$Q^{-}({}^3\text{H}) : 18,591 \quad (1) \quad \text{keV}$$

2.1 β^{-} Transitions

	Energy keV	Probability $\times 100$	Nature	lg <i>ft</i>
$\beta_{0,0}^{-}$	18,591 (1)	100	Super allowed	3,05

3 Electron Emissions

	Energy keV	Electrons per 100 disint.
$\beta_{0,0}^{-}$	max: 18,564 (3)	100
$\beta_{0,0}^{-}$	avg: 5,68 (1)	

4 Main Production Modes

$$\left\{ \begin{array}{l} \text{Li} - 6(\text{n},\alpha)\text{H} - 3 \\ \text{Possible impurities : none} \end{array} \right.$$

5 References

- E.M.McMILLAN. Phys. Rev. 49 (1936) 875
(Half-life)
- L.W.ALVAREZ, L.CORNOG. Phys. Rev. 56 (1939) 613
(Half-life)
- R.D.O'NEAL, M.GOLDHABER. Phys. Rev. 58 (1940) 574
(Half-life)
- L.W.ALVAREZ, L.CORNOG. Phys. Rev. 57 (1940) 248
(Half-life)
- A.NOVIK. Phys. Rev. 72 (1947) 972
(Half-life)
- M.GOLDHABER, E.S.ROBINSON, R.W.SPENCE. Phys. Rev. 72 (1947) 973
(Half-life)
- G.H.JENKS, J.A.GHORMLEY, F.H.SWEETON. Phys. Rev. 875 (1949) 701
(Half-life)
- G.H.JENKS, F.H.SWEETON, J.A.GHORMLEY. Phys. Rev. 80 (1950) 990
(Half-life)
- W.M.JONES. Phys. Rev. 83 (1951) 537
(Half-life)
- W.M.JONES. Phys. Rev. 100 (1955) 124
(Half-life)
- D.P.GREGORY, D.A.LANDSMAN. Phys. Rev. 109 (1958) 2091
(Average beta energies)
- M.M.POPOV, *et al.* J.Nucl.Energy 9 (1959) 190, Atomnaya Energ. 4 (1958) 269
(Half-life)
- W.L.PILLINGER, J.J.HENTGES, J.A.BLAIR. Phys. Rev. 121 (1961) 232
(Average beta energies)
- J.F.EICHELBERGER, G.R.GROVE, L.VL.JONES. Report MLM-1160, DOE, Mound Lab., Miamisburg, Ohio. June (1963) 5
(Half-life)
- J.S.MERRITT, J.G.V.TAYLOR. Chalk River Report AECL-2510 (1966)
(Half-life)
- P.M.S.JONES. J. Nucl. Materials 21 (1967) 239
(Half-life)
- K.C.JORDAN, B.C.BLANKE, W.A.DUDLEY. J. Inorg. Nucl. Chem. 29 (1967) 2129
(Half-life)
- J.MANTEL. Int. J. Appl. Radiat. Isotop. 23 (1972) 407
(Average beta mission energies)
- C.R.RUDY, K.C.JORDAN. Report MLM-2458, Monsanto Research Corporation, Miamisburg, Ohio. (1977)
(Half-life)
- M.P.UNTERWEGER, *et al.* Int. J. Appl. Radiat. Isotop. 31 (1980) 611
(Half-life)
- F.LAGOUTINE, N.COURSOL, J.LEGRAND. Table de Radionucléides, ISBN-2-7272-0078-1 (LMRI, 1982-1987) (1982)
(Average beta energies)
- I.G.KAPLAN, G.V.SMELOV, V.N.SMUTNY. Phys. Lett. 161B (1985) 389
(Beta end-point energy and Q value)
- E.GARCIA-TORANO, A.GRAU MALONDA. Comp. Phys. Commun. 36 (1985) 307
(Average beta energies)
- M.J.MARTIN. A handbook of radioactivity measurements procedures, 2nd Edition, NCRP Report 58 (1985) 368
(Average beta energies)
- T.GENKA, K.KOBAYASHI, S.HAGIWARA. Int. J. Appl. Radiat. Isotop. 38 (1987) 845
(Average beta energies)
- J.J.SIMPSON. Phys. Rev. C. 35 (1987) 752
(Half-life)
- S.D.BORIS, *et al.* Pis'ma Zh.Exsp.Teor.Fis.45 (1987) 267, Phys. Rev. Lett. 58 (1987) 2019
(Q)
- H.KAWAKAMI, *et al.* Phys. Lett. B187 (1987) 198
(Q)

- B.BUDICK, HONG LIN. Bull. Amer. Phys. Soc. 32 (1987) 1063
(Half-life)
- B.M.OLIVER, H.FARRAR IV, M.M.BRETSCHER. Int. J. Appl. Radiat. Isotop. 38 (1987) 959
(Half-life)
- YU.A.AKULOV, B.A.MAMYRIN *et al.* Sov. Tech. Phys. Lett. 14 (1988) 416
(Half-life)
- A.REDONDO, R.G.H.ROBERTSON. Phys. Rev. C. 40 (1989) 368
(Q)
- B.M.OLIVER, M.M.BRETSCHER, H.FARRAR IV. Int. J. Appl. Radiat. Isotop. 40 (1989) 199
(Half-life)
- B.BUDICK, JIANGSHENG CHEN, HONG LIN. Phys. Rev. Lett. 67 (1991) 2630
(Half-life)
- H.BACKE, *et al.* Nucl. Phys. A553 (1993) 313c
(Beta end-point energy)
- SUN HANCHENG, *et al.* Chin. J. Nucl. Phys. 15 (1993) 261
(Beta end-point energy)
- B.R.S.SIMPSON, B.R.MEYER. Nucl. Instrum. Methods Phys. Res. A339 (1994) 14
(Average beta energies)
- W.STOEFFL, D.J.DECMAN. Phys. Rev. Lett. 75 (1995) 3237
(Beta end-point energy)
- M.-M.BÉ, E.BROWNE, V.CHECHEV. Table de Radionucléides, CEA- ISBN 2 7272 0200 8, and Comments CEA-
ISBN 2 7272 0211 3 (1999)
(H-3 decay data evaluation)
- M.P.UNTERWEGER, L.L.LUCAS. Appl. Rad. Isotopes 52 (2000) 527
(Half-life)
- L.L.LUCAS, M.P.UNTERWEGER. J. Res. Nat. Inst. Stand. Technol. 104 (2000) 541
(Half-life evaluation)
- V.P.CHECHEV, A.G.EGOROV. Appl. Rad. Isotopes 52 (2000) 601
(Evaluation technique)
- J.BONN, B.BORNSCHEIN, L.BORNSCHEIN *et al.* Nucl. Phys. 48 (2002) 133
(tritium beta-spectrum)
- V.M.LOBASHEV. Nucl. Phys. A719 (2003) 153c
(Tritium beta-spectrum)
- G. AUDI, A. H. WAPSTRA, C. THIBAULT. Nucl. Phys. A729 (2003) 129
(Q)
- YU.A.AKULOV, B.A.MAMYRIN. Phys. Lett. B600 (2004) 41
(Half-life)
- C.KRAUSS, B.BORNSCHEIN, L.BORNSCHEIN *et al.* Eur. Phys. J. C40 (2005) 447
(tritium beta-spectrum)
- YU.A.AKULOV, B.A.MAMYRIN. Phys. Lett. B610 (2005) 45
(Half-life)

