

of the Chemistry and Nuclear Chemistry Division at Los Alamos. Nevertheless, she is keeping her hand in scientific work, and we have the pleasure of having her give a little bit of her time in association with our research group here at Lawrence Berkeley Laboratory.

Nuclear Properties of Mendelevium

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Mendelevium is a particularly interesting element from the standpoint of its nuclear and fission properties. Isotopes from mass 248 to 259 are known—most of these are neutron deficient and decay by alpha emission or electron capture. The heaviest known isotope of mendelevium, ^{259}Md , is nearly on the line of beta stability and decays¹ predominantly via spontaneous fission (SF) with a half-life of 95 minutes. So far, no heavier isotopes of mendelevium have been detected. Viola et al.² estimate a beta-decay energy of about 0.7 MeV and an electron-capture (e.c.) decay energy of about 0.5 MeV for ^{260}Md , while Myers³ estimates 0.5 and 1.5 MeV, respectively. A beta-decay energy of about 0.15 MeV² to stable³ is estimated for ^{261}Md , which both^{2,3} predict will be stable toward e.c. decay. Assuming first-forbidden beta decay with a log ft of 6, the half-lives for beta decay would then be from 2 to 7 hours for ^{260}Md and 50 days to stable for ^{261}Md . The electron-capture half-life for ^{260}Md would be from 1 to 10 hours. Thus for ^{261}Md and heavier isotopes the half-lives will be determined by SF decay since, as discussed later, it is expected to be very short. These data are summarized in Table 1.