Third-instar larvae of Spodoptera exempta (Wlk.) were fed on young maize leaves treated with 20 mu l of polyhedral inclusion body (PIB) suspension of concentrations that varied from 1.6 X 102 to 1.6 X 109 PIBs/ml. Daily observations were made on mortality rates. A probit analysis on the results gave an LD50 of 48.4 PIB/larva (lower and upper fiducial limits 39.2 and 59.4 PIBs/larva, respectively), and an LT50 that varied from 146.2 to 221.3 h, depending on the dosage. The results show the high pathogenicity of S. exempta nuclear polyhedrosis virus for its host.