Nitromethane was photolyzed in an argon matrix at 12 K. It had been irradiated at four different concentrations, 1:42, 1:408, 1:2906 and 1:30762, at the following wavelengths 364, 313, 254, 200 and 197 nm. Cis-CH$_3$ONO, trans-CH$_3$ONO, CH$_2$O, CH$_3$O, NO, CO, HNO, HNCO, NO$_2$ and CH$_3$NO have been identified as photoproducts. Quantum efficiencies have been calculated for nitromethane and each of its photoproducts. The following quantum efficiencies were used to construct primary and secondary mechanisms for photolysis: cis-CH$_3$ONO (0.0012), trans-CH$_3$ONO (0.0020), CH$_2$O (0.00035), CH$_3$O (0.00023), CO, (0.00066) and HNCO (0.0010).