The reactivity of diferrocenylamine has been investigated aiming at the preparation of novel diferrocenylamino compounds, including nitrenium salts, amino radicals, transition metal amides, carbamato ligands, and others. However, diferrocenylamine is unexpectedly difficult to derivatize; only simple metalation by butyl lithium, alkylation by iodomethane, and chloroformylation by phosgene were possible. X-ray crystal structures are reported for the starting diferrocenylamine, and for the derivatives diferrocenylmethylamine and N,N-diferrocenylcarbamoylchloride.