Nitrogen Molecule Cheatsheet (Ordered by Oxidation State)

Molecule	Bonds (central N)	Lone pairs (central N)	Ox. number	Formal charge (N)	Overall charge	How charge arises	Comments
NH_4^+ (ammonium)	4 N–H	0	–3	+1	+1	Gains an extra proton → coordinate bond (lone pair donated to H^+)	All four bonds equivalent
NH_3 (ammonia)	3 N–H	1	–3	0	0	–	Weak base, proton acceptor
R–NH_2 (amino N)	1 N–C, 2 N–H	1	–3	0	0	–	Incorporated into organic matter
NO_2^- (nitrite)	2 N–O (~resonance: 1 double + 1 single)	1	+3	+1	–1	Extra electron delocalised over O's	Resonance stabilised anion
NO_2 (nitrogen dioxide)	1 N=O, 1 N–O	0	+4	+1	0	–	Radical (odd electron)
NO_3^- (nitrate)	3 N–O (~1⅓ each)	0	+5	+1	–1	Extra electron delocalised over 3 O's	Symmetrical, resonance
N_2 (dinitrogen)	N≡N triple bond	1 each	0	0	0	–	Very stable, inert