

Preparation of nitrogen oxides

Name	Formula	Oxidation state	Physical properties	Preparation
Nitrous oxide	N_2O	+1	Colourless gas & neutral	$NH_4NO_3 \rightarrow N_2O + 2H_2O$
Nitric oxide	NO	+2	Colourless gas & neutral	$2NaNO_2 + 2FeSO_4 + 3H_2SO_4 \rightarrow Fe_2(SO_4)_3 + 2NaHSO_4 + 2H_2O + 2NO$
Dinitrogen trioxide (or) Nitrogen sesquioxide	N_2O_3	+3	Blue solid & acidic	$2NO + N_2O_4 \rightarrow 2N_2O_3$
Nitrogen dioxide	NO_2	+4	Brown gas & acidic	$2Pb(NO_3)_2 \rightarrow 4NO_2 + 2PbO + 3O_2$
Nitrogen tetraoxide	N_2O_4	+4	Colourless solid & acidic	$2NO_2 \rightarrow N_2O_4$
Nitrogen pentoxide	N_2O_5	+5	Colourless solid & acidic	$2HNO_3 + P_2O_5 \rightarrow N_2O_5 + 2HPO_3$