

Number	Reaction
Ionization by collision with electron	
1	$N + e \rightarrow N^+ + 2e$
2	$N_2 + e \rightarrow N^+ + N + 2e$
3	$N_2 + e \rightarrow N_2^+ + 2e$
4	$H + e \rightarrow H^+ + 2e$
5	$H_2 + e \rightarrow H^+ + H + 2e$
6	$H_2 + e \rightarrow H_2^+ + 2e$
7	$NH + e \rightarrow NH^+ + 2e$
11	$NH_3 + e \rightarrow NH_3^+ + 2e$
12	$NH_3 + e \rightarrow NH_2^+ + H + 2e$
Electron-impact dissociation	
13	$H_2 + e \rightarrow H + H + e$
14	$N_2 + e \rightarrow N + N(^2D) + e$
18	$NH_3 + e \rightarrow NH_2 + H + e$
ZE	$NH_3 + e \rightarrow NH + 2H + e$
Dissociative recombination	
20	$H_2^+ + e \rightarrow H + H$
21	$H_3^+ + e \rightarrow 3H$
22	$H_3^+ + e \rightarrow H_2 + H$
23	$N_2^+ + e \rightarrow N(^2D) + N$
24	$NH^+ + e \rightarrow N + H$
25	$NH_2^+ + e \rightarrow NH + H$
27	$NH_3^+ + e \rightarrow NH + 2H$
28	$NH_3^+ + e \rightarrow NH_2 + H$
29	$NH_4^+ + e \rightarrow NH_3 + H$
31	$N_2H^+ + e \rightarrow N_2 + H$

Number	Reaction
Ion-Neutral collisional processes	
32	$H^+ + NH_3 \rightarrow NH_3^+ + H$
ZL	$H^+ + NH_2 \rightarrow NH_2^+ + H$
ZM	$H^+ + NH \rightarrow NH^+ + H$
33	$H_2^+ + H \rightarrow H_2 + H^+$
34	$H_2^+ + H_2 \rightarrow H_3^+ + H$
35	$H_2^+ + NH_3 \rightarrow NH_3^+ + H_2$
36	$H_2^+ + N_2 \rightarrow N_2H^+ + H$
ZN	$H_2^+ + N \rightarrow N^+ + H_2$
ZO	$H_2^+ + N \rightarrow NH + H$
ZR	$H_2^+ + NH_2 \rightarrow NH_2^+ + H_2$
ZT	$H_2^+ + NH \rightarrow NH^+ + H_2$
39	$H_3^+ + NH_3 \rightarrow NH_4^+ + H_2$
ZU	$H_3^+ + NH_2 \rightarrow NH_3^+ + H_2$
ZV	$H_3^+ + NH \rightarrow NH_2^+ + H_2$
40	$H_3^+ + N_2 \rightarrow N_2H^+ + H_2$
41	$N^+ + H_2 \rightarrow NH^+ + H$
ZZ	$N^+ + H \rightarrow H^+ + N$
46	$NH^+ + H_2 \rightarrow NH_2^+ + H$
50	$NH_2^+ + H_2 \rightarrow NH_3^+ + H$