

1 heterogeneous Reactions

A total of 36 heterogeneous reactions were selected and they are given in Table 1.

#	Reactants	Products	Rate coefficient
1	HCl + ClONO ₂	\xrightarrow{SA} Cl ₂ + HNO ₃	
2	HCl + ClONO ₂	\xrightarrow{NAT} Cl ₂ + HNO ₃	$\gamma = 0.3000$
3	HCl + ClONO ₂	\xrightarrow{Ice} Cl ₂ + HNO ₃	$\gamma = 0.3000$
4	H ₂ O + ClONO ₂	\xrightarrow{SA} HOCl + HNO ₃	
5	H ₂ O + ClONO ₂	\xrightarrow{NAT} HOCl + HNO ₃	$\gamma = 6.0000E - 03$
6	H ₂ O + ClONO ₂	\xrightarrow{Ice} HOCl + HNO ₃	$\gamma = 0.3000$
7	H ₂ O + N ₂ O ₅	\xrightarrow{SA} HNO ₃ + HNO ₃	$\gamma = 0.1000$
8	H ₂ O + N ₂ O ₅	\xrightarrow{NAT} HNO ₃ + HNO ₃	$\gamma = 6.000x10^{-4}$
9	H ₂ O + N ₂ O ₅	\xrightarrow{Ice} HNO ₃ + HNO ₃	$\gamma = 3.0000E - 02$
10	HCl + N ₂ O ₅	\xrightarrow{NAT} ClNO ₂ + HNO ₃	$\gamma = 3.0000E - 03$
11	HCl + N ₂ O ₅	\xrightarrow{Ice} ClNO ₂ + HNO ₃	$\gamma = 3.0000E - 02$
12	HCl + HOCl	\xrightarrow{SA} Cl ₂ + H ₂ O	$\gamma = 0.1000$
13	HCl + HOCl	\xrightarrow{NAT} Cl ₂ + H ₂ O	$\gamma = 0.1000$
14	HCl + HOCl	\xrightarrow{Ice} Cl ₂ + H ₂ O	$\gamma = 0.3000$
15	HBr + HOBr	\xrightarrow{SA} Br ₂ + H ₂ O	$\gamma = 6.0000E - 02$
16	HBr + HOBr	\xrightarrow{NAT} Br ₂ + H ₂ O	$\gamma = 0.1200$
17	HBr + HOBr	\xrightarrow{Ice} Br ₂ + H ₂ O	$\gamma = 0.1200$
18	HCl + HOBr	\xrightarrow{SA} BrCl + H ₂ O	$\gamma = 0.1000$
19	HCl + HOBr	\xrightarrow{NAT} BrCl + H ₂ O	$\gamma = 0.2500$
20	HCl + HOBr	\xrightarrow{Ice} BrCl + H ₂ O	$\gamma = 0.2500$
21	HBr + HOCl	\xrightarrow{SA} BrCl + H ₂ O	$\gamma = 0.1000$
22	HBr + HOCl	\xrightarrow{NAT} BrCl + H ₂ O	$\gamma = 0.1000$
23	HBr + HOCl	\xrightarrow{Ice} BrCl + H ₂ O	$\gamma = 0.3000$
24	HBr + ClONO ₂	\xrightarrow{SA} BrCl + HNO ₃	
25	HBr + BrONO ₂	\xrightarrow{NAT} Br ₂ + HNO ₃	$\gamma = 0.3000$
26	HBr + BrONO ₂	\xrightarrow{Ice} Br ₂ + HNO ₃	$\gamma = 0.3000$
27	HCl + BrONO ₂	\xrightarrow{SA} BrCl + HNO ₃	
28	HCl + BrONO ₂	\xrightarrow{NAT} BrCl + HNO ₃	$\gamma = 0.3000$
29	HCl + BrONO ₂	\xrightarrow{Ice} BrCl + HNO ₃	$\gamma = 0.3000$
30	HBr + ClONO ₂	\xrightarrow{NAT} BrCl + HNO ₃	$\gamma = 0.3000$
31	HBr + ClONO ₂	\xrightarrow{Ice} BrCl + HNO ₃	$\gamma = 0.3000$
32	H ₂ O + BrONO ₂	\xrightarrow{SA} HOBr + HNO ₃	$\gamma = 0.9000$
33	H ₂ O + BrONO ₂	\xrightarrow{NAT} HOBr + HNO ₃	$\gamma = 6.0000E - 03$
34	H ₂ O + BrONO ₂	\xrightarrow{Ice} HOBr + HNO ₃	$\gamma = 0.3000$
35	HBr + N ₂ O ₅	\xrightarrow{NAT} BrONO + HNO ₃	$\gamma = 5.0000E - 03$
36	HBr + N ₂ O ₅	\xrightarrow{Ice} BrONO + HNO ₃	$\gamma = 5.0000E - 03$

Table 1: Heterogeneous reactions.