

tions can reach rather substantial levels.

Little is known about the existence and importance of peroxy nitrates other than HO_2NO_2 and PAN. It is presumed in the mechanism on which the results of Table 6-3 are based that RO_2NO_2 thermally decomposes at a rate between those for HO_2NO_2 and PAN. Assessment of the importance of RO_2NO_2 as a sink for NO_x will depend on measurement of the rates of reactions 6-40 and 6-41.

In contrast to the other species of Table 6-3, nitric acid and alkyl nitrates apparently do not undergo appreciable decomposition reactions. Thus, these two species potentially serve as important atmospheric sinks for NO_2 . Both nitric acid and alkyl nitrates may remain in the gas phase or react with other atmospheric constituents, such as ammonia, to produce low vapor pressure species that have a tendency to condense on existing particles or homogeneously nucleate to form particles.

Figure 6-1 depicts the potential paths by which particulate nitrate species may be formed from NO and NO_2 . Path 1 involves the formation of gaseous nitric acid by reactions 6-8 and 6-19. Nitric acid concentrations resulting from these two reactions for the simulated smog chamber experiment have been given in Table 6-3. Comparisons of the individual rates of reactions 6-8 and 6-19 indicate that reaction 6-19