

Table 3 TREATMENT OF CHEMISTRY IN MODELS SURVEYED*

Model	Detail of Chemistry
AES/LRT	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, seasonally varying rate; also, $\text{NO} \rightarrow \text{NO}_2$ instantaneous
ANL/STRAP	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate
ANL/ASTRAP	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, diurnally and seasonally varying rate
ARL/ATAD	Linear decay of pollutant, constant half-life
ARL/MTDF	No chemistry reported
BNL/AIRSOX	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate
CAPITA/MCARLO	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate; also, $\text{NO} \rightarrow \text{NO}_2 \rightarrow \text{HNO}_3$ and PAN chemistry
CCIW/LDAPTM	Implicit $\text{SO}_2 \rightarrow \text{SO}_4$, via half-lives of SO_2 and SO_4
CERL/LTSDM	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, rate depends on downwind distance
DM/RADM	Radioactive decay, and linear SO_2 to SO_4 transformation
DMI/LRPDM	SO_2 decay only
DU-NCAR-BNL/LAMPS	No pollutants treated
EPA/RAQSM	Multispecies photochemical mechanism
ERT/ATM	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate
ERT/SURAD	SO_2 oxidation based on photochemical mechanism
ERT/SULFA3D	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate
ERT/MESOPLUME	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate
ERT/MESOPUFF	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate
ERT/MESOGRID	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate
IAP/LRT	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, humidity-dependent rate
LLL/ADPIC	Capability for chemistry exists but none published
MEP/LRT	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, seasonally varying rate; linear $\text{NO}_2 \rightarrow \text{NO}_3$ ($\text{NO} \rightarrow \text{NO}_2$ instantaneous)
NIAR/RTM	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate
OME/LRT	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate
PNL/LRT	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate
PNL/RPTM	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate
PNL/STRAM	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, function of humidity, time of day, hydrocarbon levels (4 categories)
RI/MTDDIS	Linear decay of pollutant
SAI/RTM	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, dependent on latitude and time of day
SAI/ROM	Multispecies photochemical mechanism
SCAR/LRTM	Constant decay rate of SO_2
SRI/ENAMAP-1	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate
SRI/EURMAP-1	Linear $\text{SO}_2 \rightarrow \text{SO}_4$, constant rate