

Versions of CB-IV Chemical Mechanisms Used in UAM-IV, UAM-V, ROM and SAQMD
 (Starting with Most Recent EPA Regulatory Version (6.22))
 Updated August 11, 1997

Model and Version of Model	Approximate Date of Version/Change	Mechanism Features Compared to Regulatory Version	Projects/Applications for which Indicated Version Used
UAM-IV, v 6.22*	11/93	EPA regulatory version (from SCRAM), 86 reactions including methanol and ethanol.	SIPs, SCAQMD, AOP-Phase I
UAM-V, v 1.21**	2/93	Updated photolysis rates compared to regulatory version; 86 reactions.	LMOS; LADCO increased photolysis rates in final application.
UAM-V, v 1.22	5/94	Updated photolysis rates; expanded XO2N reactions as described in Yarwood & Burton 1993 SAI memo; 89 reactions.	MMS-GMAQS, TVA
UAM-IV, v 6.4 (UAM-V, 1.22a used for AOP had equivalent mechanism)	5/95	Updated photolysis rates; expanded XO2N reactions; revised ethanol and methanol reactions and rates; added MTBE; 91 reactions.	AOP Phase II
UAM-V, v 1.23**	2/95	Updated photolysis rates; expanded XO2N reactions; 91 reactions.	FEA, OPPE, MOCA, early OTAG
UAM-V, v 1.24	6/96	Updated photolysis rates; expanded XO2N reactions; new isoprene chemistry; 94 reactions.	Final/current OTAG
UAM-IV-tox	5/95	Updated photolysis rates; expanded XO2N reactions; expanded mechanism to include acetaldehyde explicitly; expanded toxic species (benzene, butadiene, etc.); 115 reactions.	NREL; earlier version used for OPPE
ROM	1/91	Published version of CB-IV mechanism; uses QSSA solver implemented by EPA.	EPA (SUPROXA)
SAQMD	6/92	Reg. version of mechanism with some diff.; chemical solver implemented by S. Jin; several other versions of CB-IV believed implemented	ARB (SJV); SoCAB; LMOS and OTAG

* UAM-IV, v6.22 was preceded by v6.20, which was released by EPA in 9/92, and v6.21, which was released 2/93.
 ** UAM-V, v1.11 employs SAI standard solver; used in early SAI R&D and by LADCO, TVA and other early UAM-V licensees.
 *** UAM-IV, v6.4 was preceded by v6.3 and used only in SAI R&D (see Yarwood and Burton, 12/93 memo on XO2N reactions).
 **** UAM-V, v1.23 employs enhanced horizontal/vertical nesting feature. Chemical mechanism not different from v1.22.