

1. Record Nr.	UNINA9910778807203321
Titolo	The mechanisms of atmospheric oxidation of the oxygenates [[electronic resource] /] / Jack G. Calvert ... [et al.]
Pubbl/distr/stampa	Oxford ; ; New York, : Oxford University Press, c2011
ISBN	0-19-756312-0 1-283-42779-6 9786613427793 0-19-987747-5
Descrizione fisica	1 online resource (1634 p.)
Collana	Oxford scholarship online
Altri autori (Persone)	CalvertJack G <1923-> (Jack George)
Disciplina	551.51/1
Soggetti	Atmospheric chemistry Oxidizing agents - Environmental aspects Photochemical oxidants - Environmental aspects Oxidation - Environmental aspects
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Previously issued in print: 2011.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Cover; Contents; Acknowledgments; About the Authors; I: THE OXYGENATES: THEIR PROPERTIES, SOURCES, AND USE AS ALTERNATIVE FUELS; I-A: Roles of Oxygenates in Atmospheric Chemistry; I-B: Physical Properties of the Oxygenates; I-C: Sources of Oxygenates in the Troposphere; I-D: Ambient Concentrations of the Oxygenates in the Lower Troposphere; I-E: Use of Oxygenates as Fuels or Fuel Additives; I-F: Treatment of Kinetic Data and Estimation of Atmospheric Lifetimes of Oxygenates; II: RATE COEFFICIENTS AND MECHANISMS FOR THE ATMOSPHERIC OXIDATION OF THE ALCOHOLS; II-A: Introduction II-B: Acyclic AlcoholsII-C: Diols; II-D: Unsaturated Alcohols; II-E: Aromatic Alcohols; II-F: Halogen-Substituted Alcohols; II-G: Hydroperoxides and Peroxides; III: RATE COEFFICIENTS AND MECHANISMS FOR THE ATMOSPHERIC OXIDATION OF THE ETHERS; III-A: Introduction; III-B: Acyclic Ethers; III-C: Multi-Functional Ethers; III-D: Unsaturated Ethers; III-E: Cyclic Ethers; III-F: Aromatic Ethers; III-G: Halogen-Substituted Ethers; III-H: Rate Coefficient Correlations and Structure-Activity Relationships (SARs); IV: RATE COEFFICIENTS AND

## MECHANISMS FOR THE ATMOSPHERIC OXIDATION OF THE ALDEHYDES

IV-A: Introduction IV-B: Acyclic Aldehydes; IV-C: Hydroxyaldehydes; IV-E: Unsaturated Aldehydes; IV-F: Derived from Atmospheric Oxidation of the Aromatic and Biogenic Hydrocarbons; IV-G: Halogen-Substituted Aldehydes; V: RATE COEFFICIENTS AND MECHANISMS FOR THE

ATMOSPHERIC OXIDATION OF THE KETONES; V-A: Introduction; V-B: Alkanones; V-C: Hydroxyketones; V-D: Diketones; V-E: Unsaturated Ketones; V-F: Cyclic Ketones; V-G: Ketones Derived from Biogenic Hydrocarbons; V-H: Halogen-Substituted Ketones; VI: RATE COEFFICIENTS AND MECHANISMS FOR THE ATMOSPHERIC OXIDATION OF THE ORGANIC ACIDS

VI-A: Introduction VI-B: Acyclic Organic Acids; VI-C: Dibasic Organic Acids; VI-D: Unsaturated Organic Acids; VI-E: Keto-Acids; VI-F: Organic Acids Derived from Aromatic Compounds and from Terpenes; VI-G: Halogen-Substituted Organic Acids; VI-H: Acid Anhydrides; VII: RATE COEFFICIENTS AND MECHANISMS OF ATMOSPHERIC OXIDATION OF THE ESTERS; VII-A: Introduction; VII-B: Acyclic, Saturated Monofunctional Esters; VII-C: Difunctional Esters; VII-D: Cyclic Esters (Lactones); VII-E: Unsaturated Esters; VII-F: Aromatic Esters; VII-G: Carbonates; VII-H: Lactates; VII-I: Halogen-Substituted Esters

VIII: RATE COEFFICIENTS AND MECHANISMS FOR THE ATMOSPHERIC OXIDATION OF THE N-ATOM-CONTAINING OXYGENATES VIII-A:

Introduction; VIII-B: Amides; VIII-C: Amino Alcohols; VIII-D: Alkyl Nitrates; VIII-E: Saturated Dinitrates; VIII-F: Unsaturated Dinitrates; VIII-G: Hydroxyalkyl Nitrates; VIII-H: Carbonyl Nitrates; VIII-I: Alkyl Nitrites; VIII-J: Nitroalkanes; VIII-K: Nitroalkenes; VIII-L: Nitroaromatics and Nitroarenes; VIII-M: Peroxyacyl Nitrates; VIII-N: N,N-

Dimethylnitrosamine and N,N-Dimethylnitramine; IX: MECHANISMS OF PHOTODECOMPOSITION OF THE SUNLIGHT-ABSORBING OXYGENATES; IX-A: Introduction

IX-B: Mechanisms of Photodecomposition of the Acyclic Aldehydes

---

### Sommario/riassunto

Prepared by an international team of eminent atmospheric scientists, this text is an authoritative source of information on the role of oxygenates in the chemistry of the atmosphere.

---