

CONTENTS

Introduction

1. Ethics of Chemistry: Meeting a Teaching Need 1–27
JOACHIM SCHUMMER & TOM BØRSEN

Part I: Misuse and Misconduct

Scientific Misconduct

2. The Case of the Finicky Reactions: A Case Study of Trust, Accountability, and Misconduct 29–53
JANET D. STEMWEDEL

Chemical Weapons Research and Production

3. Ethics of Chemical Weapons Research: Poison Gas in World War One 55–83
JOACHIM SCHUMMER
4. Ethical Responsibilities in Military-Related Work: The Case of Napalm 85–111
STEPHEN M. CONTAKES & TAYLOR JASHINSKY

Part II: Unforeseen Local Consequences

Industrial Disasters

5. Corporate and Governmental Responsibilities for Preventing Chemical Disasters: Lessons from Bhopal 113–140
INGRID ECKERMAN & TOM BØRSEN

Adverse Effects of Chemical Products

6. About the Futile Dream of an Entirely Riskless and Fully Effective Remedy: Thalidomide 141–167
KLAUS RUTHENBERG
7. Risk and Responsibility in Chemical Research: The Case of Agent Orange 169–194
CLAUS JACOB & ADAM WALTERS

Chemical Waste Disposal

8. When Laypeople are Right and Experts are Wrong: Lessons from Love Canal 195–219
RAGNAR FJELLAND

Part III: Global and Long-Term Influences and Challenges*Global Environmental Pollution*

9. Applying an Ethical Judgment Model to the case of DDT 221–247
TOM BØRSEN & SØREN NORS NIELSEN

10. Applying Utilitarianism and Deontology
in Managing Bisphenol-A Risks in the United States 249–278
ABIGAIL MARTIN, ALASTAIR ILES & CHRISTINE ROSEN

Green Chemistry

11. Undoing Chemical Industry Lock-ins:
Polyvinyl Chloride and Green Chemistry 279–316
ALASTAIR ILES, ABIGAIL MARTIN &
CHRISTINE MEISNER ROSEN

Intergenerational and Global Justice

12. The Ethics of Rare Earth Elements
Over Time and Space 317–346
ABIGAIL MARTIN & ALASTAIR ILES

Hazard Foresight

13. The Chemical Prediction of Stratospheric Ozone Depletion:
A Moral Model of Scientific Hazard Foresight 347–374
JOACHIM SCHUMMER

Climate Engineering

14. Ethics of Climate Engineering:
Chemical Capture of Carbon Dioxide from Air 375–401
DANE SCOTT

Part IV: Challenging Human Culture*Human Enhancement*

15. The Ethical Judgment: Chemical Psychotropics 403–429
KLAVS BIRKHOLM

Artificial Life

16. ‘Are You Playing God?’: Synthetic Biology and
the Chemical Ambition to Create Artificial Life 431–458
JOACHIM SCHUMMER

Intellectual Property Rights

17. The Normative Molecule: Patent Rights and DNA 459–486
SAURABH VISHNUBHAKAT

Part V: Codes and Regulations*Codes of Conduct*

18. American Chemical Society Codes of Conduct: 487–506
Past, Present, and Future
JEFFREY KOVAC

Chemical Regulation

19. Ethics and Chemical Regulation: The Case of REACH 507–534
JEAN-PIERRE LLORED

Biographical Notes on the Authors 535–541

Acknowledgments 543–544

Name Index 545–548

Subject Index 549–559