

ETHICS OF CHEMISTRY

From Poison Gas to Climate Engineering

edited by

Joachim Schummer

Tom Børsen

(Aalborg University, Denmark)

“ *This book is the one chemistry has been waiting for — a readable and instructive guide to thinking through the ethical consequences of chemical action. What bothers thinking and feeling people about chemistry is mostly unforeseen and unintended; evil perpetrators are for the cartoons. The sin is not to think through, as best as one can, the ethical consequences of doing good chemistry. This book helps — through absolutely fascinating case studies ranging from napalm to rare earth extraction, from patenting DNA to reporting experimental data — our sense for analyzing that unforeseen consequence is formed and honed. A readable and useful book!*

”

Roald Hoffmann

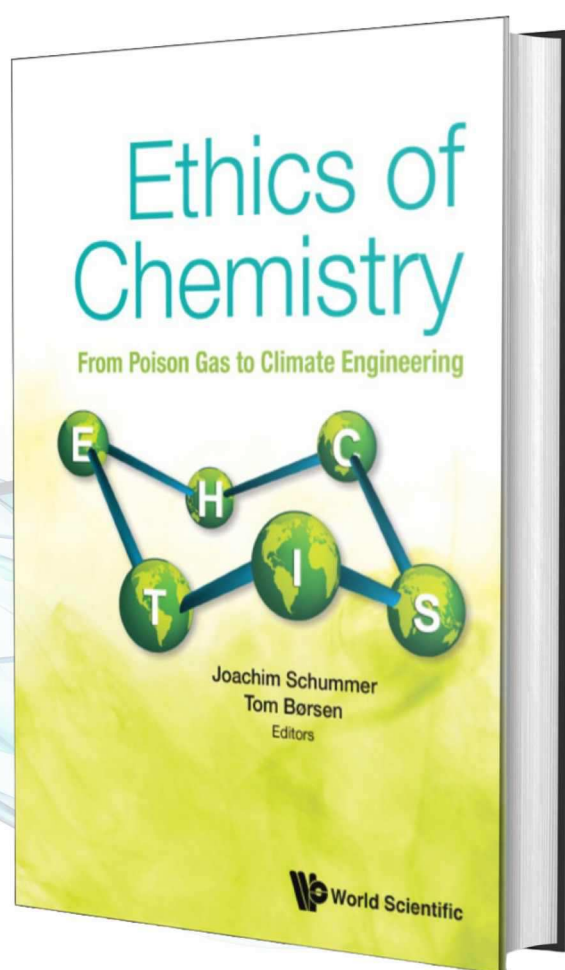
1981 Nobel Laureate in Chemistry

“ *Ethics of Chemistry sets new standards for discussing ethical questions in relation to all aspects of chemistry and will be essential for teaching ethics to chemistry students.*

”

Knud Jørgen Jensen

Professor and Head of Section for Chemical Biology at
the Department of Chemistry
University of Copenhagen



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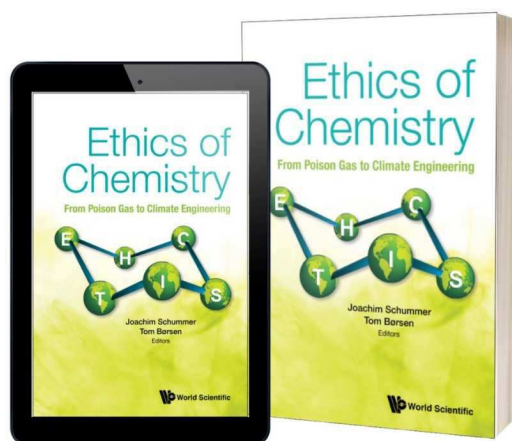
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Although chemistry has been the target of numerous public moral debates for over a century, there is still no academic field of ethics of chemistry to develop an ethically balanced view of the discipline. And while ethics courses are increasingly demanded for science and engineering students in many countries, chemistry is still lagging behind because of a lack of appropriate teaching material. This volume fills both gaps by establishing the scope of ethics of chemistry and providing a case-based approach to teaching, thereby also narrating a cultural history of chemistry.

From poison gas in WWI to climate engineering of the future, this volume covers the most important historical cases of chemistry. It draws lesson from major disasters of the past, such as in Bhopal and Love Canal, or from thalidomide, Agent Orange, and DDT. It further introduces to ethical arguments pro and con by discussing issues about bisphenol-A, polyvinyl chloride, and rare earth elements; as well as of contested chemical projects such as human enhancement, the creation of artificial life, and patents on human DNA. Moreover, it illustrates chemical engagements in preventing hazards, from the prediction of ozone depletion, to Green Chemistry, and research in recycling, industrial substance substitution, and clean-up. Students also learn about codes of conduct and chemical regulations.

An international team of experts narrate the historical cases and analyse their ethical dimensions. All cases are suitable for undergraduate teaching, either in classes of ethics, history of chemistry, or in chemistry classes proper.



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