

This report contains the collective views of an international group of experts and does not necessarily represent the decisions or the stated policy of the United Nations Environment Programme, the International Labour Organisation, or the World Health Organization

Environmental Health Criteria 32

METHYLENE CHLORIDE

Published under the joint sponsorship of the United Nations Environment Programme, the International Labour Organisation, and the World Health Organization



INVENTARIO N. 35



World Health Organization
Geneva, 1984

Other titles available in the ENVIRONMENTAL HEALTH CRITERIA series include:

1. Mercury
2. Polychlorinated Biphenyls and Terphenyls
3. Lead
4. Oxides of Nitrogen
5. Nitrates, Nitrites, and N-Nitroso Compounds
6. Principles and Methods for Evaluating the Toxicity of Chemicals, Part 1
7. Photochemical Oxidants
8. Sulfur Oxides and Suspended Particulate Matter
9. DDT and its Derivatives
10. Carbon Disulfide
11. Mycotoxins
12. Noise
13. Carbon Monoxide
14. Ultraviolet Radiation
15. Tin and Organotin Compounds
16. Radiofrequency and Microwaves
17. Manganese
18. Arsenic
19. Hydrogen Sulfide
20. Selected Petroleum Products
21. Chlorine and Hydrogen Chloride
22. Ultrasound
23. Lasers and Optical Radiation
24. Titanium
25. Selected Radionuclides
26. Styrene
27. Guidelines on Studies in Environmental Epidemiology
28. Acrylonitrile
29. 2,4-Dichlorophenoxyacetic Acid (2,4-D)
30. Principles for Evaluating Health Risks to Progeny Associated with Exposure to Chemicals during Pregnancy
31. Tetrachloroethylene

CONTENTS

	Page
ENVIRONMENTAL HEALTH CRITERIA FOR METHYLENE CHLORIDE	
PREFACE	7
1. SUMMARY	9
2. PROPERTIES AND ANALYTICAL METHODS	11
2.1 Chemical and physical properties of methylene chloride	11
2.2 Analytical methods	12
3. PRODUCTION, USES, DISPOSAL OF WASTES; ENVIRONMENTAL TRANSPORT AND DISTRIBUTION	15
3.1 Production, uses, disposal of wastes	15
3.1.1 Production levels and processes	15
3.1.2 Uses	15
3.1.3 Disposal of wastes	15
3.2 Environmental transport and distribution	15
4. ENVIRONMENTAL LEVELS AND EXPOSURES	17
4.1 Air	17
4.2 Water	17
4.3 Food	17
4.4 Occupational exposure	18
4.5 Controlled exposure	18
5. CHEMIOBIKINETICS AND METABOLISM	19
5.1 Absorption	19
5.1.1 Animal studies	19
5.1.2 Human studies	19
5.2 Distribution	20
5.2.1 Animal studies	20
5.2.2 Human studies	21
5.3 Metabolic transformation	21
5.3.1 Animal studies	21
5.3.1.1 Enzyme pathway	22
5.3.2 Human studies	22
5.4 Excretion	23
5.4.1 Animal studies	23
5.4.2 Human studies	24

The International Programme on Chemical Safety (IPCS) is a joint venture of the United Nations Environment Programme, the International Labour Organisation, and the World Health Organization. The main objective of the IPCS is to carry out and disseminate evaluations of the effects of chemicals on human health and the quality of the environment. Supporting activities include the development of epidemiological, experimental laboratory, and risk-assessment methods that could produce internationally comparable results, and the development of manpower in the field of toxicology. Other activities carried out by IPCS include the development of know-how for coping with chemical accidents, coordination of laboratory testing and epidemiological studies, and promotion of research on the mechanisms of the biological action of chemicals.

ISBN 92 4 154092 3

©World Health Organization 1984

Publications of the World Health Organization enjoy copyright protection in accordance with the provisions of Protocol 2 of the Universal Copyright Convention. For rights of reproduction or translation of WHO publications, in part or *in toto*, application should be made to the Office of Publications, World Health Organization, Geneva, Switzerland. The World Health Organization welcomes such applications.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

PRINTED IN FINLAND

83/5761 - VAMMALA - 5500