

TABLE OF CONTENTS

FOREWORD	1
1. EXECUTIVE SUMMARY.....	4
2. IDENTITY AND PHYSICAL/CHEMICAL PROPERTIES.....	5
3. ANALYTICAL METHODS.....	6
3.1 Sampling and analysis of workplace air	6
3.2 Analysis of urine and plasma samples.....	8
4. SOURCES OF HUMAN EXPOSURE	8
5. ENVIRONMENTAL TRANSPORT, DISTRIBUTION, AND TRANSFORMATION	9
6. HUMAN EXPOSURE	9
6.1 Occupational exposure	9
6.2 Consumer exposure	10
7. COMPARATIVE KINETICS AND METABOLISM IN LABORATORY ANIMALS AND HUMANS	10
7.1 Absorption.....	10
7.2 Distribution	10
7.3 Metabolism and excretion	11
8. EFFECTS ON LABORATORY MAMMALS AND IN VITRO TEST SYSTEMS	12
8.1 Single exposure	12
8.2 Short-term exposure	12
8.3 Medium-term exposure	12
8.4 Long-term exposure and carcinogenicity	13
8.5 Genotoxicity and related end-points.....	13
8.6 Reproductive and developmental toxicity	13
8.7 Other toxicity.....	13
8.7.1 Irritation	14
8.7.2 Allergic contact dermatitis.....	14
8.7.3 Antibody-mediated sensitization	14
8.8 Mode of action.....	19
9. EFFECTS ON HUMANS	20
9.1 Irritation and sensitization	20
9.2 Effects of repeated exposure.....	20
9.2.1 Allergic dermatitis	20
9.2.2 Respiratory allergies	21
9.2.2.1 Phthalic anhydride	21
9.2.2.2 Trimellitic anhydride	22
9.2.2.3 Hexahydrophthalic anhydride.....	22
9.2.2.4 Hexahydrophthalic anhydride and methyl hexahydrophthalic anhydride	22
9.2.2.5 Methyl tetrahydrophthalic anhydride	23
9.2.2.6 Tetrachlorophthalic anhydride.....	23
9.2.2.7 Pyromellitic dianhydride	24
9.2.2.8 Other anhydrides	24

9.2.3 Other effects	24
9.3 Mode of action in humans	24
 10. EVALUATION OF HEALTH EFFECTS	25
10.1 Hazard identification and dose-response assessment.....	25
10.2 Concentrations associated with critical effects.....	25
10.3 Uncertainties in the evaluation of health risks.....	26
 11. PREVIOUS EVALUATIONS BY INTER-ORGANIZATION PROGRAMME FOR THE SOUND MANAGEMENT OF CHEMICALS (IOMC) BODIES.....	26
 REFERENCES.....	27
APPENDIX 1—ACRONYMS AND ABBREVIATIONS.....	33
APPENDIX 2—SOURCE DOCUMENT	34
APPENDIX 3—CICAD PEER REVIEW.....	34
APPENDIX 4—CICAD FINAL REVIEW BOARD.....	35
INTERNATIONAL CHEMICAL SAFETY CARDS.....	36
RÉSUMÉ D'ORIENTATION	56
RESUMEN DE ORIENTACIÓN	58