

**TOXICOLOGICAL PROFILE FOR  
1,2-DICHLOROETHENE**

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**  
**Public Health Service**  
Agency for Toxic Substances and Disease Registry

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**DISCLAIMER**

The use of company or product name(s) is for identification only and does not imply endorsement by the Agency for Toxic Substances and Disease Registry.

### UPDATE STATEMENT

A Toxicological Profile for 1,2-dichloroethene was released in December 1990. This edition supersedes any previously released draft or final profile.

Toxicological profiles are revised and republished as necessary, but no less than once every three years. For information regarding the update status of previously released profiles, contact ATSDR at:

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## FOREWORD

This toxicological profile is prepared in accordance with guidelines\* developed by the Agency for Toxic Substances and Disease Registry (ATSDR) and the Environmental Protection Agency (EPA). The original guidelines were published in the *Federal Register* on April 17, 1987. Each profile will be revised and republished as necessary.

The ATSDR toxicological profile succinctly characterizes the toxicologic and adverse health effects information for the hazardous substance described therein. Each peer-reviewed profile identifies and reviews the key literature that describes a hazardous substance's toxicologic properties. Other pertinent literature is also presented, but is described in less detail than the key studies. The profile is not intended to be an exhaustive document; however, more comprehensive sources of specialty information are referenced.

The focus of the profiles is on health and toxicologic information; therefore, each toxicological profile begins with a public health statement that describes, in nontechnical language, a substance's relevant toxicological properties. Following the public health statement is information concerning levels of significant human exposure and, where known, significant health effects. The adequacy of information to determine a substance's health effects is described in a health effects summary. Data needs that are of significance to protection of public health are identified by ATSDR and EPA.

Each profile includes the following:

- (A) The examination, summary, and interpretation of available toxicologic information and epidemiologic evaluations on a hazardous substance to ascertain the levels of significant human exposure for the substance and the associated acute, subacute, and chronic health effects;
- (B) A determination of whether adequate information on the health effects of each substance is available or in the process of development to determine levels of exposure that present a significant risk to human health of acute, subacute, and chronic health effects; and
- (C) Where appropriate, identification of toxicologic testing needed to identify the types or levels of exposure that may present significant risk of adverse health effects in humans.

The principal audience for the toxicological profiles is health professionals at the Federal, State, and local levels; interested private sector organizations and groups; and members of the public.

This profile reflects ATSDR's assessment of all relevant toxicologic testing and information that has been peer-reviewed. Staff of the Centers for Disease Control and Prevention and other Federal scientists have also reviewed the profile. In addition, this profile has been peer-reviewed by a nongovernmental panel and was made available for public review. Final responsibility for the contents and views expressed in this toxicological profile resides with ATSDR.



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### **\*Legislative Background**

The toxicological profiles are developed in response to the Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99-499) which amended the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund). This public law directed ATSDR to prepare toxicological profiles for hazardous substances most commonly found at facilities on the CERCLA National Priorities List and that pose the most significant potential threat to human health, as determined by ATSDR and the EPA. The availability of the revised priority list of 275 hazardous substances was announced in the *Federal Register* on April 29, 1996 (61 FR 18744). For prior versions of the list of substances, see *Federal Register* notices dated April 17, 1987 (52 FR 12866); October 20, 1988 (53 FR 41280); October 26, 1989 (54 FR 43619); October 17, 1990 (55 FR 42067); October 17, 1991 (56 FR 52166); October 28, 1992 (57 FR 48801); and February 28, 1994 (59 FR 9486). Section 104(I)(3) of CERCLA, as amended, directs the Administrator of ATSDR to prepare a toxicological profile for each substance on the list.

## CONTRIBUTORS

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### THE PROFILE HAS UNDERGONE THE FOLLOWING ATSDR INTERNAL REVIEWS:

1. Green Border Review. Green Border review assures consistency with ATSDR policy.
2. Health Effects Review. The Health Effects Review Committee examines the health effects chapter of each profile for consistency and accuracy in interpreting health effects and classifying end points.
3. Minimal Risk Level Review. The Minimal Risk Level Workgroup considers issues relevant to substance-specific minimal risk levels (MRLs), reviews the health effects database of each profile, and makes recommendations for derivation of MRLs.

## PEER REVIEW

A peer review panel was assembled for 1,2-dichloroethene. The panel consisted of the following members:

1. Dr. Frederick Guengerich, Vanderbilt University School of Medicine, Department of Biochemistry, Nashville, Tennessee;
2. Dr. Derek Hodgson, Provost and Vice President of Academic Affairs, Mississippi State University, Mississippi State, Mississippi;
3. Dr. Norman Trieff, Professor of Environmental Toxicology, University of Texas Medical Branch, Galveston, Texas; and
4. Dr. Benjamin Van Duuren, Private Consultant, New York, New York.

These experts collectively have knowledge of 1,2-dichloroethene's physical and chemical properties, toxicokinetics, key health end points, mechanisms of action, human and animal exposure, and quantification of risk to humans. All reviewers were selected in conformity with the conditions for peer review specified in Section 104(i)(13) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended.

Scientists from the Agency for Toxic Substances and Disease Registry (ATSDR) have reviewed the peer reviewers' comments and determined which comments will be included in the profile. A listing of the peer reviewers' comments not incorporated in the profile, with a brief explanation of the rationale for their exclusion, exists as part of the administrative record for this compound. A list of databases reviewed and a list of unpublished documents cited are also included in the administrative record.

The citation of the peer review panel should not be understood to imply its approval of the profile's final content. The responsibility for the content of this profile lies with the ATSDR.



## CONTENTS

FOREWORD .....	v
CONTRIBUTORS .....	vii
PEER REVIEW .....	ix
LIST OF FIGURES .....	xv
LIST OF TABLES .....	xvii
1. PUBLIC HEALTH STATEMENT .....	1
1.1 WHAT IS 1,2-DICHLOROETHENE? .....	2
1.2 WHAT HAPPENS TO 1,2-DICHLOROETHENE WHEN IT ENTERS THE ENVIRONMENT? .....	2
1.3 HOW MIGHT I BE EXPOSED TO 1,2-DICHLOROETHENE? .....	3
1.4 HOW CAN 1,2-DICHLOROETHENE ENTER AND LEAVE MY BODY? .....	3
1.5 HOW CAN 1,2-DICHLOROETHENE AFFECT MY HEALTH? .....	4
1.6 IS THERE A MEDICAL TEST TO DETERMINE WHETHER I HAVE BEEN EXPOSED TO 1,2-DICHLOROETHENE? .....	4
1.7 WHAT RECOMMENDATIONS HAS THE FEDERAL GOVERNMENT MADE TO PROTECT HUMAN HEALTH? .....	4
1.8 WHERE CAN I GET MORE INFORMATION? .....	5
2. HEALTH EFFECTS .....	7
2.1 INTRODUCTION .....	7
2.2 DISCUSSION OF HEALTH EFFECTS BY ROUTE OF EXPOSURE .....	7
2.2.1 Inhalation Exposure .....	9
2.2.1.1 Death .....	9
2.2.1.2 Systemic Effects .....	9
2.2.1.3 Immunological and Lymphoreticular Effects .....	17
2.2.1.4 Neurological Effects .....	18
2.2.1.5 Reproductive Effects .....	18
2.2.1.6 Developmental Effects .....	19
2.2.1.7 Genotoxic Effects .....	19
2.2.1.8 Cancer .....	19
2.2.2 Oral Exposure .....	20
2.2.2.1 Death .....	20
2.2.2.2 Systemic Effects .....	29
2.2.2.3 Immunological and Lymphoreticular Effects .....	34
2.2.2.4 Neurological Effects .....	35
2.2.2.5 Reproductive Effects .....	36
2.2.2.6 Developmental Effects .....	36
2.2.2.7 Genotoxic Effects .....	36
2.2.2.8 Cancer .....	36

2.2.3	Dermal Exposure	37
2.2.3.1	Death	37
2.2.3.2	Systemic Effects	37
2.2.3.3	Immunological and Lymphoreticular Effects	40
2.2.3.4	Neurological Effects	40
2.2.3.5	Reproductive Effects	40
2.2.3.6	Developmental Effects	40
2.2.3.7	Genotoxic Effects	40
2.2.3.8	Cancer	40
2.3	TOXICOKINETICS	40
2.3.1	Absorption	40
2.3.1.1	Inhalation Exposure	40
2.3.1.2	Oral Exposure	41
2.3.1.3	Dermal Exposure	41
2.3.2	Distribution	41
2.3.3	Metabolism	41
2.3.4	Excretion	44
2.4	MECHANISMS OF ACTION	44
2.5	RELEVANCE TO PUBLIC HEALTH	45
2.6	BIOMARKERS OF EXPOSURE AND EFFECT	52
2.6.1	Biomarkers Used to Identify or Quantify Exposure to 1,2-Dichloroethene	57
2.6.2	Biomarkers Used to Characterize Effects Caused by 1,2-Dichloroethene	57
2.7	INTERACTIONS WITH OTHER CHEMICALS	58
2.8	POPULATIONS THAT ARE UNUSUALLY SUSCEPTIBLE	58
2.9	METHODS FOR REDUCING TOXIC EFFECTS	59
2.9.1	Reducing Peak Absorption Following Exposure	59
2.9.2	Reducing Body Burden	60
2.9.3	Interfering with the Mechanism of Action for Toxic Effects	60
2.10	ADEQUACY OF THE DATABASE	61
2.10.1	Existing Information on Health Effects of 1,2-Dichloroethene	61
2.10.2	Identification of Data Needs	64
2.10.3	Ongoing Studies	72
3.	CHEMICAL AND PHYSICAL INFORMATION	73
3.1	CHEMICAL IDENTITY	73
3.2	PHYSICAL AND CHEMICAL PROPERTIES	73
4.	PRODUCTION, IMPORT/EXPORT, USE, AND DISPOSAL	77
4.1	PRODUCTION	77
4.2	IMPORT/EXPORT	77
4.3	USE	79
4.4	DISPOSAL	79
5.	POTENTIAL FOR HUMAN EXPOSURE	81
5.1	OVERVIEW	81
5.2	RELEASES TO THE ENVIRONMENT	82
5.2.1	Air	82
5.2.2	Water	87
5.2.3	Soil	89

5.3.1	Transport and Partitioning	90
5.3.2	Transformation and Degradation	91
5.3.2.1	Air	91
5.3.2.2	Water	93
5.3.2.3	Sediment and Soil	95
5.4	LEVELS MONITORED OR ESTIMATED IN THE ENVIRONMENT	96
5.4.1	Air	96
5.4.2	Water	99
5.4.3	Sediment and Soil	107
5.4.4	Other Environmental Media	108
5.5	GENERAL POPULATION AND OCCUPATIONAL EXPOSURE	109
5.6	POPULATIONS WITH POTENTIALLY HIGH EXPOSURES	110
5.7	ADEQUACY OF THE DATABASE	110
5.7.1	Identification of Data Needs	110
5.7.2	Ongoing Studies	114
6.	ANALYTICAL METHODS	115
6.1	BIOLOGICAL SAMPLES	115
6.2	ENVIRONMENTAL SAMPLES	117
6.3	ADEQUACY OF THE DATABASE	121
6.3.1	Identification of Data Needs	122
6.3.2	Ongoing Studies	123
7.	REGULATIONS AND ADVISORIES	125
8.	REFERENCES	135
9.	GLOSSARY	157
APPENDICES		
A.	MINIMAL RISK LEVEL (MRL) WORKSHEET(S)	A-3
B.	USER'S GUIDE	B-1
C.	ACRONYMS, ABBREVIATIONS, AND SYMBOLS	C-1

## LIST OF FIGURES

2-1	Levels of Significant Exposure to 1,2-Dichloroethene - Inhalation . . . . .	13
2-2	Levels of Significant Exposure to 1,2-Dichloroethene - Oral . . . . .	27
2-3	Proposed Metabolic Scheme for 1,2-Dichloroethene . . . . .	43
2-4	Existing Information on Health Effects of cis-1,2-Dichloroethene . . . . .	62
2-5	Existing Information on Health Effects of trans-1,2-Dichloroethene . . . . .	63
5-1	Frequency of Sites with cis-1,2-Dichloroethene Contamination . . . . .	83
5-2	Frequency of Sites with trans-1,2-Dichloroethene Contamination . . . . .	84
5-3	Frequency of Sites with 1,2-Dichloroethene (Unspecified) Contamination . . . . .	85



## LIST OF TABLES

2-1	Levels of Significant Exposure to 1,2-Dichloroethene - Inhalation . . . . .	10
2-2	Levels of Significant Exposure to 1,2-Dichloroethene - Oral . . . . .	21
2-3	Levels of Significant Exposure to 1,2-Dichloroethene - Dermal . . . . .	38
2-4	Genotoxicity of cis- and trans-1,2-Dichloroethene <i>In Vivo</i> . . . . .	53
2-5	Genotoxicity of cis- and trans-1,2-Dichloroethene <i>In Vitro</i> . . . . .	54
3-1	Chemical Identity of 1,2-Dichloroethene . . . . .	74
3-2	Physical and Chemical Properties of cis- and trans-1,2-Dichloroethene . . . . .	75
4-1	Facilities That Manufacture or Process 1,2-Dichloroethene . . . . .	78
5-1	Releases to the Environment from Facilities That Manufacture or Process 1,2-Dichloroethene . . . . .	86
5-2	Air Monitoring Data for 1,2-Dichloroethene . . . . .	97
5-3	Water Monitoring Data for 1,2-Dichloroethene . . . . .	100
6-1	Analytical Methods for Determining 1,2-Dichloroethene in Biological Samples . . . . .	116
6-2	Analytical Methods for Determining 1,2-Dichloroethene in Environmental Samples . . . . .	118
7-1	Regulations and Guidelines Applicable to trans- and cis-1,2-Dichloroethene . . . . .	127

