



Toxicological Profile for 2,4-Dichlorophenoxyacetic Acid (2,4-D)

July 2020



U.S. Department of Health and Human Services
Agency for Toxic Substances and Disease Registry

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DISCLAIMER

Use of trade names is for identification only and does not imply endorsement by the Agency for Toxic Substances and Disease Registry, the Public Health Service, or the U.S. Department of Health and Human Services.

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 these toxic substances described therein. Each peer-reviewed profile identifies and reviews the key literature that describes a 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 relevance to public health discussion which would allow a public health professional to make a real-time determination of whether the presence of a particular substance in the environment poses a potential threat to human health. 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 the protection of public health are identified by ATSDR.

Each profile includes the following:

- (A) The examination, summary, and interpretation of available toxicologic information and epidemiologic evaluations on a toxic substance to ascertain the levels of significant human exposure for the substance due to associated acute, intermediate, and chronic exposures;
- (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, intermediate, 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 audiences for the toxicological profiles are 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. Staffs 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 under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA or Superfund). CERCLA section 104(i)(1) directs the Administrator of ATSDR to "...effectuate and implement the health related authorities" of the statute. This includes the preparation of toxicological profiles for hazardous substances most commonly found at facilities on the CERCLA National Priorities List (NPL) and that pose the most significant potential threat to human health, as determined by ATSDR and the EPA. Section 104(i)(3) of CERCLA, as amended, directs the Administrator of ATSDR to prepare a toxicological profile for each substance on the list. In addition, ATSDR has the authority to prepare toxicological profiles for substances not found at sites on the NPL, in an effort to "...establish and maintain inventory of literature, research, and studies on the health effects of toxic substances" under CERCLA Section 104(i)(1)(B), to respond to requests for consultation under section 104(i)(4), and as otherwise necessary to support the site-specific response actions conducted by ATSDR.

VERSION HISTORY

Date	Description
July 2020	Final toxicological profile released
April 2017	Draft for public comment toxicological profile released

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These experts collectively have knowledge of toxicology, chemistry, and/or health effects. All reviewers were selected in conformity with Section 104(I)(13) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended.

ATSDR scientists review peer reviewers' comments and determine whether changes will be made to the profile based on comments. The peer reviewers' comments and responses to these comments are part of the administrative record for this compound.

The listing of peer reviewers should not be understood to imply their approval of the profile's final content. The responsibility for the content of this profile lies with ATSDR.

CONTENTS

FOREWORD	ii
VERSION HISTORY	v
CONTRIBUTORS & REVIEWERS	vi
CONTENTS.....	vii
LIST OF FIGURES	ix
LIST OF TABLES	x
CHAPTER 1. RELEVANCE TO PUBLIC HEALTH	1
1.1 OVERVIEW AND U.S. EXPOSURES	1
1.2 SUMMARY OF HEALTH EFFECTS.....	2
1.3 MINIMAL RISK LEVELS (MRLs)	6
CHAPTER 2. HEALTH EFFECTS.....	8
2.1 INTRODUCTION.....	8
2.2 DEATH	43
2.3 BODY WEIGHT.....	45
2.4 RESPIRATORY	47
2.5 CARDIOVASCULAR.....	49
2.6 GASTROINTESTINAL.....	49
2.7 HEMATOLOGICAL	50
2.8 MUSCULOSKELETAL	52
2.9 HEPATIC.....	53
2.10 RENAL	55
2.11 DERMAL.....	58
2.12 OCULAR	58
2.13 ENDOCRINE.....	59
2.14 IMMUNOLOGICAL	62
2.15 NEUROLOGICAL.....	63
2.16 REPRODUCTIVE	66
2.17 DEVELOPMENTAL.....	69
2.18 OTHER NONCANCER.....	72
2.19 CANCER.....	72
2.20 GENOTOXICITY	79
2.21 MECHANISMS OF ACTION	85
2.21.1 Pharmacokinetic Mechanisms.....	85
2.21.2 Mechanisms of Toxicity.....	87
CHAPTER 3. TOXICOKINETICS, SUSCEPTIBLE POPULATIONS, BIOMARKERS, CHEMICAL INTERACTIONS	91
3.1 TOXICOKINETICS	91
3.1.1 Absorption.....	91
3.1.2 Distribution	94
3.1.3 Metabolism.....	97
3.1.4 Excretion	98
3.1.5 Physiologically Based Pharmacokinetic (PBPK)/Pharmacodynamic (PD) Models	101
3.1.6 Animal-to-Human Extrapolations	105
3.2 CHILDREN AND OTHER POPULATIONS THAT ARE UNUSUALLY SUSCEPTIBLE...	105

3.3	BIOMARKERS OF EXPOSURE AND EFFECT	109
3.3.1	Biomarkers of Exposure.....	110
3.3.2	Biomarkers of Effect.....	112
3.4	INTERACTIONS WITH OTHER CHEMICALS	113
CHAPTER 4. CHEMICAL AND PHYSICAL INFORMATION		114
4.1	CHEMICAL IDENTITY	114
4.2	PHYSICAL AND CHEMICAL PROPERTIES	117
CHAPTER 5. POTENTIAL FOR HUMAN EXPOSURE.....		122
5.1	OVERVIEW	122
5.2	PRODUCTION, IMPORT/EXPORT, USE, AND DISPOSAL	124
5.2.1	Production	124
5.2.2	Import/Export.....	125
5.2.3	Use	126
5.2.4	Disposal.....	128
5.3	RELEASES TO THE ENVIRONMENT	128
5.3.1	Air	129
5.3.2	Water.....	130
5.3.3	Soil	131
5.4	ENVIRONMENTAL FATE	132
5.4.1	Transport and Partitioning.....	132
5.4.2	Transformation and Degradation	134
5.5	LEVELS IN THE ENVIRONMENT.....	139
5.5.1	Air	140
5.5.2	Water.....	142
5.5.3	Sediment and Soil	144
5.5.4	Other Media	145
5.6	GENERAL POPULATION EXPOSURE.....	145
5.7	POPULATIONS WITH POTENTIALLY HIGH EXPOSURES	156
CHAPTER 6. ADEQUACY OF THE DATABASE.....		158
6.1	INFORMATION ON HEALTH EFFECTS.....	158
6.2	IDENTIFICATION OF DATA NEEDS	160
6.3	ONGOING STUDIES.....	168
CHAPTER 7. REGULATIONS AND GUIDELINES		170
CHAPTER 8. REFERENCES		172
APPENDICES		
APPENDIX A. ATSDR MINIMAL RISK LEVEL WORKSHEETS		A-1
APPENDIX B. LITERATURE SEARCH FRAMEWORK FOR 2,4-D		B-1
APPENDIX C. USER'S GUIDE		C-1
APPENDIX D. QUICK REFERENCE FOR HEALTH CARE PROVIDERS		D-1
APPENDIX E. GLOSSARY		E-1
APPENDIX F. ACRONYMS, ABBREVIATIONS, AND SYMBOLS		F-1

LIST OF FIGURES

1-1. Health Effects Found in Animals Following Oral Exposure to 2,4-D.....	4
1-2. Summary of Sensitive Targets of 2,4-D – Oral	7
2-1. Overview of the Number of Studies Examining 2,4-D Health Effects.....	11
2-2. Levels of Significant Exposure to 2,4-D – Inhalation	13
2-3. Levels of Significant Exposure to 2,4-D – Oral	34
3-1. Proposed Metabolic Pathway of 2,4-D in Dogs	98
5-1. Number of NPL Sites with 2,4-D Contamination.....	122
6-1. Summary of Existing Health Effects Studies on 2,4-D By Route and Endpoint.....	159

LIST OF TABLES

1-1. Minimal Risk Levels (MRLs) for 2,4-D.....	7
2-1. Levels of Significant Exposure to 2,4-D – Inhalation	12
2-2. Levels of Significant Exposure to 2,4-D – Oral	15
2-3. Levels of Significant Exposure to 2,4-D – Dermal	41
2-4. Genotoxicity of 2,4-D <i>In Vivo</i>	80
2-5. Genotoxicity of 2,4-D <i>In Vitro</i>	81
4-1. Chemical Identity of 2,4-D.....	114
4-2. Chemical Identity of 2,4-D Derivatives.....	115
4-3. Physical and Chemical Properties of 2,4-D.....	117
4-4. Physical and Chemical Properties of 2,4-D Derivatives.....	118
5-1. Facilities that Produce, Process, or Use 2,4-D.....	125
5-2. Registered Uses for 2,4-D	126
5-3. Releases to the Environment from Facilities that Produce, Process, or Use 2,4-D	129
5-4. Lowest Limit of Detection Based on Standards	139
5-5. Summary of Environmental Levels of 2,4-D.....	140
5-6. 2,4-D Levels in Water, Soil, and Air of National Priorities List (NPL) Sites	140
5-7. Geometric Mean and Selected Percentiles of 2,4-D Urine Concentrations (in $\mu\text{g/L}$) for the U.S. Population from the National Health and Nutrition Examination Survey (NHANES) 1999–2010	146
5-8. Geometric Mean and Selected Percentiles of 2,4-D Urine Concentrations (Creatinine Corrected) (in $\mu\text{g/g}$ of Creatinine) for the U.S. Population from the National Health and Nutrition Examination Survey (NHANES) 1999–2010.....	149
5-9. Measured 2,4-D Urine Concentrations for Workers.....	155
6-1. Ongoing Studies on 2,4-D	168
7-1. Regulations and Guidelines Applicable to 2,4-D	170