

## Tetrachlorocyclopentadiene; CASRN 695-77-2

Human health assessment information on a chemical substance is included in the IRIS database only after a comprehensive review of toxicity data, as outlined in the [IRIS assessment development process](#). Sections I (Health Hazard Assessments for Noncarcinogenic Effects) and II (Carcinogenicity Assessment for Lifetime Exposure) present the conclusions that were reached during the assessment development process. Supporting information and explanations of the methods used to derive the values given in IRIS are provided in the [guidance documents located on the IRIS website](#).

### STATUS OF DATA FOR Tetrachlorocyclopentadiene

**File First On-Line 03/01/1990**

Category (section)	Assessment Available?	Last Revised
Oral RfD (I.A.)	not evaluated	
Inhalation RfC (I.B.)	not evaluated	
Carcinogenicity Assessment (II.)	yes	03/01/1990*

\*A comprehensive review of toxicological studies was completed (May 24, 2006) - please see section II.D.2. for more information.

### I. Chronic Health Hazard Assessments for Noncarcinogenic Effects

#### I.A. Reference Dose for Chronic Oral Exposure (RfD)

Substance Name — Tetrachlorocyclopentadiene  
CASRN — 695-77-2

Not available at this time.

## **I.B. Reference Concentration for Chronic Inhalation Exposure (RfC)**

Substance Name — Tetrachlorocyclopentadiene  
CASRN — 695-77-2

Not available at this time.

---

## **II. Carcinogenicity Assessment for Lifetime Exposure**

Substance Name — Tetrachlorocyclopentadiene  
CASRN — 695-77-2  
Last Revised — 03/01/1990

Section II provides information on three aspects of the carcinogenic assessment for the substance in question; the weight-of-evidence judgment of the likelihood that the substance is a human carcinogen, and quantitative estimates of risk from oral exposure and from inhalation exposure. The quantitative risk estimates are presented in three ways. The slope factor is the result of application of a low-dose extrapolation procedure and is presented as the risk per (mg/kg)/day. The unit risk is the quantitative estimate in terms of either risk per ug/L drinking water or risk per ug/cu.m air breathed. The third form in which risk is presented is a drinking water or air concentration providing cancer risks of 1 in 10,000, 1 in 100,000 or 1 in 1,000,000. The rationale and methods used to develop the carcinogenicity information in IRIS are described in The Risk Assessment Guidelines of 1986 (EPA/600/8-87/045) and in the IRIS Background Document. IRIS summaries developed since the publication of EPA's more recent Proposed Guidelines for Carcinogen Risk Assessment also utilize those Guidelines where indicated (Federal Register 61(79):17960-18011, April 23, 1996). Users are referred to Section I of this IRIS file for information on long-term toxic effects other than carcinogenicity.

### **II.A. Evidence for Human Carcinogenicity**

#### **II.A.1. Weight-of-Evidence Characterization**

Classification — D; not classifiable as to human carcinogenicity

Basis — Lack of data concerning carcinogenicity in humans or animals.

#### **II.A.2. Human Carcinogenicity Data**

None.

### **II.A.3. Animal Carcinogenicity Data**

None.

### **II.A.4. Supporting Data for Carcinogenicity**

Tetrachlorocyclopentadiene was mutagenic for *Escherichia coli* k12 at 1E-5 to 1E-3 M in the presence but not in the absence of mouse hepatic homogenates (Goggelmann et al., 1978). Mutagenicity was detected in *Salmonella typhimurium* TA1535, TA1538 with mouse hepatic homogenates (Greim et al., 1977).

---

### **II.B. Quantitative Estimate of Carcinogenic Risk from Oral Exposure**

None.

---

### **II.C. Quantitative Estimate of Carcinogenic Risk from Inhalation Exposure**

None.

---

### **II.D. EPA Documentation, Review, and Contacts (Carcinogenicity Assessment)**

#### **II.D.1. EPA Documentation**

Source Document — U.S. EPA, 1988

The 1988 Health and Environmental Effects Document has received Agency Review.

#### **II.D.2. EPA Review (Carcinogenicity Assessment)**

Agency Work Group Review — 10/05/1989

Verification Date — 10/05/1989

A comprehensive review of toxicological studies published through May 2006 was conducted. No new health effects data were identified that would be directly useful in the revision of the existing carcinogenicity assessment for Tetrachlorocyclopentadiene and a change in the

assessment is not warranted at this time. For more information, IRIS users may contact the IRIS Hotline at [hotline.iris@epa.gov](mailto:hotline.iris@epa.gov) or (202)566-1676.

### **II.D.3. EPA Contacts (Carcinogenicity Assessment)**

Please contact the IRIS Hotline for all questions concerning this assessment or IRIS, in general, at (202)566-1676 (phone), (202)566-1749 (FAX) or [hotline.iris@epa.gov](mailto:hotline.iris@epa.gov) (internet address).

---

**III. [reserved]**

**IV. [reserved]**

**V. [reserved]**

---

## **VI. Bibliography**

Substance Name — Tetrachlorocyclopentadiene  
CASRN — 695-77-2

### **VI.A. Oral RfD References**

None

---

### **VI.B. Inhalation RfD References**

None

---

### **VI.C. Carcinogenicity Assessment References**

Goggelmann, W., G. Bonse, D. Henschler and H. Greim. 1978. Mutagenicity of chlorinated cyclopentadiene due to metabolic activation. *Biochem. Pharmacol.* 27: 2927-2929.

Greim, J., D. Bimboes, W. Goggelmann and M. Kramer. 1977. Mutagenicity and chromosomal aberrations as an analytical tool for in vitro detection of mammalian enzyme-mediated formation reactive metabolites. *Arch. Toxicol.* 39: 159-169.

U.S. EPA. 1988. Health and Environmental Effects Document for Chlorinated Cyclopentadienes. Prepared by the Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office, Cincinnati, OH for the Office of Solid Waste and Emergency Response, Washington, DC.

---

## VII. Revision History

Substance Name — Tetrachlorocyclopentadiene  
CASRN — 695-77-2

Date	Section	Description
03/01/1990	II.	Carcinogen assessment on-line
12/03/2002	II.D.2.	Screening-Level Literature Review Findings message has been added.
07/05/2006	II.D.2.	Screening-Level Literature Review Findings message has been removed and replaced by comprehensive literature review conclusions.

---

## VIII. Synonyms

Substance Name — Tetrachlorocyclopentadiene  
CASRN — 695-77-2  
Last Revised — 03/01/1990

- 77323-85-4
- 1,3-Cyclopentadiene, tetrachloro-
- Cyclopentadiene, tetrachloro-
- Tetrachlorocyclopentadiene