

## Terbutryn; CASRN 886-50-0

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 Terbutryn

**File First On-Line 09/26/1988**

Category (section)	Assessment Available?	Last Revised
<b>Oral RfD (I.A.)</b>	yes	09/26/1988
<b>Inhalation RfC (I.B.)</b>	not evaluated	
<b>Carcinogenicity Assessment (II.)</b>	not evaluated	

## I. Chronic Health Hazard Assessments for Noncarcinogenic Effects

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

Substance Name — Terbutryn

CASRN — 886-50-0

Last Revised — 09/26/1988

The oral Reference Dose (RfD) is based on the assumption that thresholds exist for certain toxic effects such as cellular necrosis. It is expressed in units of mg/kg-day. In general, the RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. Please refer to the Background Document for an elaboration of these concepts. RfDs can also be derived for the noncarcinogenic health effects of substances that are also carcinogens. Therefore, it is essential to refer to other sources of

information concerning the carcinogenicity of this substance. If the U.S. EPA has evaluated this substance for potential human carcinogenicity, a summary of that evaluation will be contained in Section II of this file.

### I.A.1. Oral RfD Summary

Critical Effect	Experimental Doses*	UF	MF	RfD
<b>Hematologic effects in females</b>	NOEL: 2 ppm (0.1 mg/kg/day)	100	1	1E-3 mg/kg/day
<b>2-Year Rat Feeding Study</b>	LEL: 300 ppm (15 mg/kg/day)			
<b>Ciba-Geigy, 1980a</b>				

\*Conversion Factors -- 1 ppm = 0.05 mg/kg/day (assumed rat food consumption)

### I.A.2. Principal and Supporting Studies (Oral RfD)

Ciba-Geigy Corporation. 1980a. MRID No. 00035923. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Two hundred sixty male and 260 female weanling Charles River CD rats were randomly distributed into the following groups: 0, (70 animals/sex), 2 (60 animals/sex), 300 (60 animals/sex) and 3000 ppm (70 animals/sex) (0, 0.1, 15, and 150 mg/kg/day) and administered terbutryn in their diets for 2 years. Based upon a statistical reevaluation of the hematologic data from this study, a NOEL for systemic effects can be set at 2 ppm. The LEL is 300 ppm based upon a statistically significant and dose-related decrease in hemoglobin and erythrocytes in female rats at 18 months. This parameter was not measured for the mid-dose group at term. At the HDT (3000 ppm) there was also a statistically significant decrease in hematocrit in females at both 18 and 24 months.

### I.A.3. Uncertainty and Modifying Factors (Oral RfD)

UF — An uncertainty factor of 100 was used to account for the inter- and intraspecies differences.

MF — None

#### **I.A.4. Additional Studies/Comments (Oral RfD)**

Data Considered for Establishing the RfD:

- 1) 2-Year Feeding (oncogenic) - rat: Principal study - see previous description; core grade minimum
- 2) 6-Month Feeding - dog: NOEL=10 mg/kg/day; LEL=25 mg/kg/day (mucosal thickening of various segments of the small intestine and submucosal lymphoid hyperplasia in the stomach); core grade minimum (Ciba-Geigy Corp., 1980b)
- 3) 3-Generation Reproduction - rat: NOEL=15 mg/kg/day; LEL=150 mg/kg/day (decreased body weight gain and decreased fertility indices in males and females); core grade minimum (Ciba-Geigy Corp., 1980c)
- 4) Teratology - rat: Maternal NOEL=50 mg/kg/day; Maternal LEL=500 mg/kg/day (reduced body weight); Developmental NOEL=50 mg/kg/day; Developmental LEL=500 mg/kg/day (weight decrease, reduced ossification - front and rear paws); core grade minimum (Ciba-Geigy Corp., 1985a)
- 5) Teratology - rabbit: Maternal NOEL=10 mg/kg/day; Maternal LEL=50 mg/kg/day (body weight loss); Developmental NOEL=50 mg/kg/day; Developmental LEL=75 mg/kg/day (reduced ossification of sternebrae); core grade guideline (Ciba-Geigy Corp., 1985b)

Data Gap(s): None

#### **I.A.5. Confidence in the Oral RfD**

Study — High

Database — High

RfD — High

The critical study is of good quality and is given a high confidence rating. Additional studies are supportive; therefore, the database is given a high confidence rating. High confidence in the RfD follows.

### **I.A.6. EPA Documentation and Review of the Oral RfD**

Source Document — This assessment is not presented in any existing U.S. EPA document.

Other EPA Documentation — Pesticide Registration Standard, July 1986; Pesticide Registration Files

Agency Work Group Review — 07/15/1987, 08/13/1987, 07/20/1988

Verification Date — 07/20/1988

Screening-Level Literature Review Findings — A screening-level review conducted by an EPA contractor of the more recent toxicology literature pertinent to the RfD for Terbutryn conducted in September 2002 identified one or more significant new studies. IRIS users may request the references for those studies from the IRIS Hotline at [hotline.iris@epa.gov](mailto:hotline.iris@epa.gov) or (202)566-1676.

### **I.A.7. EPA Contacts (Oral RfD)**

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).

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

Substance Name — Terbutryn

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Not available at this time.

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

Substance Name — Terbutryn

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This substance/agent has not undergone a complete evaluation and determination under US EPA's IRIS program for evidence of human carcinogenic potential.

**III. [reserved]**

**IV. [reserved]**

**V. [reserved]**

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## **VI. Bibliography**

Substance Name — Terbutryn

CASRN — 886-50-0

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

Ciba-Geigy Corporation. 1980a. MRID No. 00035923. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Ciba-Geigy Corporation. 1980b. MRID No. 00029152. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Ciba-Geigy Corporation. 1980c. MRID No. 00035659. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Ciba-Geigy Corporation. 1985a. MRID No. 00152764. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Ciba-Geigy Corporation. 1985b. MRID No. 00152763. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

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

None

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

None

## VII. Revision History

Substance Name — Terbutryn  
CASRN — 886-50-0

Date	Section	Description
09/26/1988	I.A.	Oral RfD summary on-line
12/03/2002	I.A.6.	Screening-Level Literature Review Findings message has been added.

## VIII. Synonyms

Substance Name — Terbutryn  
CASRN — 886-50-0  
Last Revised — 09/26/1988

- 886-50-0
- 4-AETHYLAMINO-2-tert-BUTYLAMINO-6-METHYLTHIO-s-TRIAZIN
- CLAROSAN
- GS 14260
- HS-14260
- IGRAN
- IGRAN 50
- 2-METHYLTHIO-4-ETHYLAMINO-6-tert-BUTYLAMINO-s-TRIAZINE
- PREBANE
- SHORTSTOP
- SHORT-STOP E
- TERBUTREX
- Terbutryn
- TERBUTRYNE
- 2-tert.BUTYLAMINO-4-AETHYLAMINO-6-METHYLTHIO-1,3,5-TRIAZIN
- 2-tert-BUTYLAMINO-4-ETHYLAMINO-6-METHYLMERCAPTO-s-TRIAZINE
- 2-tert-BUTYLAMINO-4-ETHYLAMINO-6-METHYLTHIO-s-TRIAZINE
- s-TRIAZINE, 2-(tert-BUTYLAMINO)-4-(ETHYLAMINO)-6-(METHYLTHIO)-