

Tralomethrin; CASRN 66841-25-6

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 Tralomethrin

File First On-Line 07/01/1989

Category (section)	Assessment Available?	Last Revised
Oral RfD (I.A.)	yes	07/01/1989
Inhalation RfC (I.B.)	not evaluated	
Carcinogenicity Assessment (II.)	not evaluated	

I. Chronic Health Hazard Assessments for Noncarcinogenic Effects

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

Substance Name — Tralomethrin
CASRN — 66841-25-6
Primary Synonym — RU 25474
Last Revised — 07/01/1989

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
Decreased body weight gain in males; increased food and water consumption in males and females	NOEL: 0.75 mg/kg/day	100	1	7.5E-3 mg/kg/day
	LEL: 3 mg/kg/day			
2-Year Rat Feeding Study Roussel UCLAF, 1984				
Depressed body weight in parents and pups during lactation	NOEL: 0.75 mg/kg/day			
	LEL: 3 mg/kg/day			
2-Generation Rat Reproduction Study Roussel UCLAF, 1983				

*Conversion Factors: Actual dose tested

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

Roussel UCLAF. 1984. MRID No. 00132750, 00137860. Roussel UCLAF. 1983a. MRID No. 00133256. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Groups of Charles River CD rats (80/sex/dose level) were administered tralomethrin (dissolved in corn oil) by gastric gavage at dosage levels of 0, 0.75, 3.0, or 12.0 mg/kg/day for 2 years (Roussel UCLAF, 1984). At 12 mg/kg/day, some animals exhibited excessive salivation; occasional uncoordinated involuntary body movements (after 62 weeks); marked decrease in body weight gains (to a greater degree in males than in females); marked increases in food consumption; and a dose-related increase in water consumption. Animals exposed to 3 mg/kg/day showed decreased body weight gains (males only); a slight increase in food consumption; and a dose-related increase in water consumption. These increases in food consumption resulted in a concomitant decreases in food utilization at these dose levels. The increases were more marked in males (more than 30% greater than the controls).

Based on decreased body weight gain and the increase in food and water consumption, the NOEL and LEL for systemic toxicity are 0.75 and 3 mg/kg/day, respectively.

In a generation reproduction study Tralomethrin was administered daily by gavage to Charles River COBS CD rats at dose levels of 0, 0.75, 3.0, and 12.0 mg/kg/day (Roussel UCLAF, 1983a). The F0 parental generation was dosed for 98 days (14 weeks) prior to mating and continuously through gestation and lactation until sacrifice. The F1 parental generation was dosed for at least 120 days prior to mating and then continuously through gestation and lactation until sacrifice. No evidence of adverse effects on reproductive performance of either male or the female F0 or F1 parents were noted at any dose levels. Some signs of decreased initial body weight (at birth) were noted in the F1b pups in the 12 mg/kg/day group. Dose-related decreases in pup weights were observed during lactation in the F1a, F1b, and F2a pups in the mid- and high- dose groups while the parent rats showed decreases in body weight at 3 and 12 mg/kg/day. Therefore, the NOEL for this study is set at 0.75 mg/kg/day.

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: Co-principal study - see previous description; core grade guideline (Roussel UCLAF, 1984)

2) 2-Generation Reproduction - rat: Co-principal study - see previous description; core grade minimum (Roussel UCLAF, 19883a)

3) 1-Year Feeding - dog: NOEL=1 mg/kg/day; LEL=3 mg/kg/day (body weight changes, tremors and ptalism); At 6 mg/kg/day (HDT) organ weight changes and definite signs of nervous system effects were observed; core grade guideline (Roussel UCLAF, 1982)

4) Teratology - rat: Maternal and Teratogenic NOEL=18 mg/kg/day (HDT); Maternal and Teratogenic LEL=none; core grade minimum (American Hoechst, 1980a)

5) Teratology - rabbit: Maternal NOEL=8 mg/kg/day; Maternal LEL=32 mg/kg/day (HDT; body weight loss); Teratogenic NOEL=32 mg/kg/day (HDT); Teratogenic NOEL=none; core grade minimum (American Hoechst, 1980b)

Other Data Reviewed:

1) 2-Year Oncogenic - mouse: Systemic NOEL=0.75 mg/kg/day; Systemic LEL=3 mg/kg/day (skin lesions in male and female); At 10 mg/kg/day (HDT) the following effects were observed: increased mortality, increased behavioral effects; skin lesions; increased food and water consumption, increased urine volume; transient increase in liver and kidney weights; dermatitis and myositis in male and female; core grade guideline (Roussel UCLAF, 1983b)

2) 3-Month Feeding - rat: NOEL=1 mg/kg/day; LEL=6 mg/kg/day (decreases in liver weight); core grade minimum (American Hoechst, 1980c)

3) 13-Week Feeding - dog: NOEL=1 mg/kg/day; LEL=10 mg/kg/day (HDT; neurological effects); core grade minimum (American Hoechst, 1978)

Data Gap(s): None

I.A.5. Confidence in the Oral RfD

Study — High

Database — High

RfD — High

The critical studies are of good quality and are given a high confidence ratings. Additional rodent studies (reproduction and chronic mouse) with similar dose levels indicate that the NOEL and LEL for tralomethrin are approximately 0.75 and 3 mg/kg/day respectively. 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 Files

Agency Work Group Review — 04/20/1989

Verification Date — 04/20/1989

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 tralomethrin conducted in August 2003 did not identify any critical new studies. IRIS users who know of important new studies may provide that information to the IRIS Hotline at 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 (internet address).

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

Substance Name — Tralomethrin

CASRN — 66841-25-6

Primary Synonym — RU 25474

Not available at this time.

II. Carcinogenicity Assessment for Lifetime Exposure

Substance Name — Tralomethrin

CASRN — 66841-25-6

Primary Synonym — RU 25474

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]

VI. Bibliography

Substance Name — Tralomethrin

CASRN — 66841-25-6

Primary Synonym — RU 25474

VI.A. Oral RfD References

American Hoechst. 1978. MRID No. 00058846. Available from EPA. Write to FOI, EPA, Washington D.C. 20460.

American Hoechst. 1980a. MRID No. 00058920. Available from EPA. Write to FOI, EPA, Washington D.C. 20460.

American Hoechst. 1980b. MRID No. 00058921. Available from EPA. Write to FOI, EPA, Washington D.C. 20460.

American Hoechst. 1980c. MRID No. 00058845, 00094891. Available from EPA. Write to FOI, EPA, Washington D.C. 20460.

Roussel UCLAF. 1982. MRID No. 00133255. Available from EPA. Write to FOI, EPA, Washington D.C. 20460.

Roussel UCLAF. 1983a. MRID No. 00133256. Available from EPA. Write to FOI, EPA, Washington D.C. 20460.

Roussel UCLAF. 1983b. MRID No. 00132545. Available from EPA. Write to FOI, EPA, Washington D.C. 20460.

Roussel UCLAF. 1984. MRID No. 00132750, 00137860. Available from EPA. Write to FOI, EPA, Washington D.C. 20460.

VI.B. Inhalation RfC References

None

VI.C. Carcinogenicity Assessment References

None

VII. Revision History

Substance Name — Tralomethrin

CASRN — 66841-25-6

Primary Synonym — RU 25474

Date	Section	Description
07/01/1989	I.A.	Oral RfD summary on-line
10/28/2003	I.A.6	Screening-Level Literature Review Findings message has been added.

VIII. Synonyms

Substance Name — Tralomethrin

CASRN — 66841-25-6

Primary Synonym — RU 25474

Last Revised — 07/01/1989

- 66841-25-6
- CYANO(3-PHENOXYPHENYL)METHYL 2,2-DIMETHYL-3-(1,2,2,2-TETRABROMOETHYL)CYCLOPROPANECARBOXYLATE
- CYCLOPROPANECARBOXYLIC ACID, 2,2-DIMETHYL-3-(1,2,2,2-TETRABROMOETHYL)-, CYANO(3-PHENOXYPHENYL)METHYL ESTER
- HAG 107

- RU 25472
- RU 25474
- TRALOMETHRIN
- TRALOMETHRINE