

Propachlor; CASRN 1918-16-7

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 Propachlor

File First On-Line 01/31/1987

Category (section)	Assessment Available?	Last Revised
Oral RfD (I.A.)	yes	01/31/1987
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 — Propachlor

CASRN — 1918-16-7

Last Revised — 01/31/1987

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
<p>Decreased weight gain, food consumption; increased relative liver weights.</p> <p>90-Day Feeding Study in Rats</p> <p>Monsanto Co., 1964a</p>	<p>NOEL: 13.3 mg/kg/day</p> <p>LEL: 133.3 mg/kg/day</p>	1000	1	1.3E-2 mg/kg/day

*Conversion Factors: Study conducted with 65% wettable powder.

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

Monsanto Company. 1964a. MRID No. 00093270; HED Doc. No. 001381. Available from EPA. Write to FOI, EPA, Washington DC 20460.

Twenty-five rats/sex/dose were fed concentrations of propachlor (as 65% wettable powder) in the diet that were calculated to equal 0, 1.3, 13.3, and 133.3 mg/kg/day. Dietary concentrations were adjusted weekly so as to maintain the desired dosages. The effects of treatment on body weight gain, food consumption, hematology, urinalysis, and gross and microscopic pathology were assessed. The only apparent effects of treatment were decreases in body weights in males and females of 10-12%, and increases in relative liver weights of about 10%.

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

UF — Based on a subchronic exposure study, an uncertainty factor of 1000 was used to account for inter- and intraspecies differences, and the insufficient duration of the study to fully assess chronic effects.

MF — None

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

Data Considered for Establishing the RfD

- 1) 90-Day Feeding - rat: Principal study - see discussion above; no core grade
- 2) 90-Day Feeding - dog: NOEL=133.3 mg/kg/day (HDT); no core grade (Monsanto Co., 1964b)
- 3) Teratology - rat: Maternal and Development NOEL=200 mg/kg/day, (HDT); core grade minimum (Monsanto Co., 1982)

Other Data Reviewed

- 1) Teratology - rabbit: Study under review.
- 2) 90-Day Feeding - rat: Study under review.
- 3) 90-Day Feeding - rat: Study under review.

Data Gap(s): Chronic Rat Feeding Study; Chronic Dog Feeding Study; Rat Reproduction Study

I.A.5. Confidence in the Oral RfD

Study — Low
Database — Low
RfD — Low

The principal study appears to be of low quality and is given a low confidence rating. Since data gaps exist, the database is given a low confidence rating. Low 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, August 1984; Pesticide Registration Files

Agency Work Group Review — 07/22/1986

Verification Date — 07/22/1986

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 — Propachlor

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Not available at this time.

II. Carcinogenicity Assessment for Lifetime Exposure

Substance Name — Propachlor

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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]

VI. Bibliography

Substance Name — Propachlor

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VI.A. Oral RfD References

Monsanto Company. 1964a. MRID No. 00093270; HED Doc. No. 001381. Available from EPA. Write to FOI, EPA, Washington DC 20460.

Monsanto Company. 1964b. MRID No. 00093270; HED Doc. No. 001381, 003921. Available from EPA. Write to FOI, EPA, Washington DC 20460.

Monsanto Company. 1982. MRID No. 001151136; HED Doc. No. 002402. Available from EPA. Write to FOI, EPA, Washington DC 20460.

VI.B. Inhalation RfC References

None

VI.C. Carcinogenicity Assessment References

None

VII. Revision History

Substance Name — Propachlor
CASRN — 1918-16-7

Date	Section	Description
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VIII. Synonyms

Substance Name — Propachlor
CASRN — 1918-16-7
Last Revised — 01/31/1987

- 1918-16-7
- ACETAMIDE, 2-CHLORO-N-(1-METHYLETHYL)-N-PHENYL-
- ACETANILIDE, 2-CHLORO-N-ISOPROPYL-
- BEXTON
- BEXTON 4L
- CHLORESSIGSAEURE-N-ISOPROPYLANILID
- 2-CHLORO-N-ISOPROPYLACETANILIDE
- alpha-CHLORO-N-ISOPROPYLACETANILIDE
- 2-CHLORO-N-ISOPROPYL-N-PHENYLACETAMIDE
- CP 31393
- N-ISOPROPYL-2-CHLOROACETANILIDE
- N-ISOPROPYL-alpha-CHLOROACETANILIDE
- NITICID
- Propachlor
- PROPACHLORE
- RAMROD
- RAMROD 65
- SATECID