This IRIS Summary has been removed from the IRIS database and is available for historical reference purposes. (July 2016)

Oxyfluorfen; CASRN 42874-03-3

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 Oxyfluorfen

File First On-Line 01/31/1987

<table>
<thead>
<tr>
<th>Category (section)</th>
<th>Assessment Available?</th>
<th>Last Revised</th>
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<tbody>
<tr>
<td>Oral RfD (I.A.)</td>
<td>yes</td>
<td>01/31/1987</td>
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<tr>
<td>Inhalation RfC (I.B.)</td>
<td>not evaluated</td>
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<tr>
<td>Carcinogenicity Assessment (II.)</td>
<td>not evaluated</td>
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I. Chronic Health Hazard Assessments for Noncarcinogenic Effects

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

Substance Name — Oxyfluorfen
CASRN — 42874-03-3
Primary Synonym — Goal
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

<table>
<thead>
<tr>
<th>Critical Effect</th>
<th>Experimental Doses*</th>
<th>UF</th>
<th>MF</th>
<th>RfD</th>
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<tr>
<td>Increased absolute liver weight and nonneoplastic lesions</td>
<td>NOEL: 2 ppm (0.3 mg/kg/day)</td>
<td>100</td>
<td>1</td>
<td>3E-3 mg/kg/day</td>
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<tr>
<td></td>
<td>LEL: 20 ppm (3 mg/kg/day)</td>
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<tr>
<td>20-Month Mouse Feeding Study</td>
<td>Rohm &amp; Haas, 1977a</td>
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*Conversion Factors: 1 ppm = 0.15 mg/kg/day (assumed mouse food consumption)

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


Fifty Charles River CD-1 mice/sex/dose were fed diets containing 2, 20, and 200 ppm of oxyfluorfen (87.7% active ingredient) for 20 months. The following results were noted: 1) increased absolute liver weight at 20 ppm; 2) necrosis, regeneration, and hyperplastic nodules in liver at 20 ppm; and 3) increased incidence of effects at 200 ppm.

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

UF — An uncertainty factor of 100 was used to account for the interspecies differences and the spectrum of sensitivity in the human population.

MF — None

I.A.4. Additional Studies/Comments (Oral RfD)
Data Considered for Establishing the RfD

1) 20-Month Feeding (oncogenic) - mice: Principal study - see previous discussion; core grade minimum

2) 2-Year Feeding - dog: NOEL=100 ppm (2.5 mg/kg/day); LEL=600 ppm (15 mg/kg/day), (increased liver weight, elevated alkaline phosphatase; increased bile pigmented hepatocytes); core grade minimum (Rohm and Haas, 1981)

3) 2-Year Feeding (oncogenic) - rat: Systemic NOEL=40 ppm (2 mg/kg/day); Systemic LEL=800/600 ppm (40/30 mg/kg/day) (minimal hypertrophy of centrilobular hepatocytes of the liver); core grade minimum (Rohm and Haas, 1977b)

4) 3-Generation Reproduction - rat: NOEL=10 ppm (0.5 mg/kg/day); LEL=100 ppm (5 mg/kg/day); core grade minimum (Rohm and Haas, 1977c)

5) Teratology - rat: Fetotoxic NOEL=100 mg/kg/day; Fetotoxic LEL=1000 mg/kg/day; Teratogenic NOEL=1000 mg/kg/day (HDT); core grade minimum (Rohm and Haas, 1977d)

6) Teratology - rabbit: Maternal NOEL=10 mg/kg/day; Maternal LEL=30 mg/kg/day (anorexia, decreased body weight gain); Fetotoxic NOEL=10 mg/kg/day; Fetotoxic LEL=30 mg/kg/day (fused sternebrae); Teratogenic NOEL=1000 mg/kg/day; core grade supplementary (Rohm and Haas, 1982)

Data Gap(s): Rabbit Teratology Study

I.A.5. Confidence in the Oral RfD

Study — High  
Database — High  
RfD — High

The principal study appears to be of good quality and, therefore, is given a high rating. The data and supporting studies are of high quality; thus, 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

Pesticide Registration Files

Agency Work Group Review — 06/10/1986

Verification Date — 06/10/1986

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 Oxyfluorfen 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 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).

II. Carcinogenicity Assessment for Lifetime Exposure

Substance Name — Oxyfluorfen
CASRN — 42874-03-3
Primary Synonym — Goal

Not available at this time.
III. [reserved]
IV. [reserved]
V. [reserved]

VI. Bibliography

Substance Name — Oxyfluorfen
CASRN — 42874-03-3
Primary Synonym — Goal

VI.A. Oral RfD References


VI.B. Inhalation RfC References

None
VI.C. Carcinogenicity Assessment References

None

VII. Revision History

Substance Name — Oxyfluorfen
CASRN — 42874-03-3
Primary Synonym — Goal

<table>
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<tr>
<th>Date</th>
<th>Section</th>
<th>Description</th>
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<td>12/03/2002</td>
<td>I.A.6.</td>
<td>Screening-Level Literature Review Findings message has been added.</td>
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VIII. Synonyms

Substance Name — Oxyfluorfen
CASRN — 42874-03-3
Primary Synonym — Goal
Last Revised — 01/31/1987

- 42874-03-3
- 2-CHLORO-1-(3-ETHOXY-4-NITROPHENOXY)-4-TRIFLUOROMETHYLBENZENE
- 2-CHLORO-alpha,alpha,alpha-TRIFLUORO-p-TOLYL-3-ETHOXY-4-NITROPHENYL ETHER
- ETHER, 2-CHLORO-alpha,alpha,alpha-TRIFLUORO-p-TOLYL 3-ETHOXY-4-NITROPHENYL
- GOAL
- Oxyfluorfen
- RH-2915