

Oxadiazon; CASRN 19666-30-9

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 Oxadiazon

File First On-Line 09/30/1987

Category (section)	Assessment Available?	Last Revised
Oral RfD (I.A.)	yes	09/30/1987
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 — Oxadiazon

CASRN — 19666-30-9

Last Revised — 09/30/1987

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
Increased levels of serum proteins and increased liver weights	NOEL: 10 ppm diet (0.5 mg/kg/day)	100	1	5E-3 mg/kg/day
2-Year Rat Feeding Study	LEL: 100 ppm diet (5 mg/kg/day)			
Rhone-Poulenc, 1981				

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

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

Rhone-Poulenc Company. 1981. MRID No. 00149003. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

The following dose levels of oxadiazon were fed to rats in their diets for 2 years: 0, 10, 100, 1000, and 3000 ppm. At the LEL, there were increased levels of serum proteins (females, 18%) and increased liver weights (31%). At 1000 ppm the following effects were seen: hepatotoxicity, hemolytic anemia, body weight changes (in males, only slight decrease in females), decreased food consumption, increases in kidney weight, and pigment nephrosis (both sexes).

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

UF — Based on a chronic exposure study, an uncertainty factor of 100 was used to account for inter- and intraspecies differences.

MF — None

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

The increase in liver weight is considered a biologically significant response to oxadiazon, since at higher doses there was evidence of liver pathology. Thus, the NOEL is based on the absence of any observed effect on the liver.

Data Considered for Establishing the RfD:

- 1) 2-Year Feeding (oncogenic) - rat: Principal study - see previous description; core grade guideline
- 2) 3-Generation Reproduction - rat: NOEL=100 ppm (5 mg/kg/day); LEL=200 ppm (10 mg/kg/day) (fewer and lighter pups; at 400 ppm reduction in litter size); no core grade (Rhone-Poulenc, 1977)
- 3) 2-Year Feeding - dog: NOEL=100 ppm (2.5 mg/kg/day); core grade minimum (Rhone-Poulenc, 1974)
- 4) Teratology - rabbits: Not teratogenic up to and including 500 mg/kg/day; no core grade (Rhone-Poulenc, 1972a)
- 5) Teratology - rat: Not teratogenic but fetotoxic at 40 mg/kg/day and above; no core grade (Rhone-Poulenc, 1972b)

Data Gap(s): None

I.A.5. Confidence in the Oral RfD

Study — High
Database — Medium
RfD — Medium

The principal study is of good quality and is given a high confidence rating. Additional studies are supportive, but not core-graded; therefore, the data base is given a medium confidence rating. Medium confidence in the RfD follows.

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

Pesticide Registration Files

Agency Work Group Review — 02/18/1987

Verification Date — 02/18/1987

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 oxadiazon 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 — Oxadiazon

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Not available at this time.

II. Carcinogenicity Assessment for Lifetime Exposure

Substance Name — Oxadiazon

CASRN — 19666-30-9

Not available at this time.

III. [reserved]

IV. [reserved]

V. [reserved]

VI. Bibliography

Substance Name — Oxadiazon
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VI.A. Oral RfD References

Rhone-Poulenc Company. 1972a. MRID No. 00061412. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Rhone-Poulenc Company. 1972b. MRID No. 00061413. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Rhone-Poulenc Company. 1974. MRID No. 00081256. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Rhone-Poulenc Company. 1977. MRID No. 00058379. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Rhone-Poulenc Company. 1981. MRID No. 00149003. 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 — Oxadiazon
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Date	Section	Description
10/28/2003	I.A.6	Screening-Level Literature Review Findings message has been added.

VIII. Synonyms

Substance Name — Oxadiazon
CASRN — 19666-30-9
Last Revised — 09/30/1987

- 19666-30-9
- O,O-DIETHYL ESTER
- Oxadiazon
- PHOSPHORODITHIOIC ACID, S-((6-CHLORO-2-OXO-3(2H)-BENZOXAZOLYL)METHYL)
- RONSTAR
- RP 17623
- 2-tert-BUTYL-4-(2,4-DICHLORO-5-ISOPROPYLOXYPHENYL)-1,3,4-OXADIAZOLIN-5-ON-