

Imazaquin; CASRN 81335-37-7

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 Imazaquin

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)

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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, skeletal myopathy, slight anemia, bone marrow hyperplasia, elevated serum SGOT, SGPT, CPK	NOEL: 25 mg/kg/day LEL: 125 mg/kg/day	100	1	2.5E-1 mg/kg/day
One-year Feeding Dog Study				
American Cyanamid, 1984a				

*Conversion Factors -- none

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

American Cyanamid Company. 1984a. MRID No. 00138972. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Imazaquin was administered in the diet at 0, 5, 25, or 125 mg/kg bw/day to groups of 8 male and 8 female beagle dogs for 1 year. Signs of toxicity noted at the high dose were: decreased body weight gain; skeletal myopathy; slight anemia; bone marrow hyperplasia; elevated serum SGOT, SGPT, and CPK; increased relative liver weight.

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

UF — The UF of 100 was used to account for the uncertainties in the extrapolation from laboratory animals to sensitive humans.

MF — None

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

Data Considered for Establishing the RfD

- 1) One-year feeding - dog: Principal study - see discussion above; core grade guideline).
- 2) 2-Year Feeding (oncogenic) - rat: Systemic NOEL=500 mg/kg/day (HDT); LEL not established; core grade minimum (American Cyanamid, 1985a)
- 3) 3-generation Reproduction - rat: Maternal NOEL=1000 mg/kg/day (HDT); LEL not established; Fetotoxic NOEL=1000 mg/kg/day; LEL not established; core grade minimum (American Cyanamid, 1985b)
- 4) Teratology - rabbit: Maternal NOEL=250 mg/kg/day; LEL=500 mg/kg/day (decreased weight gain); Fetotoxic NOEL=500 mg/kg/day (HDT); LEL not established; core grade minimum (American Cyanamid, 1984b)
- 5) Teratology - rat: Maternal NOEL=500 mg/kg/day; LEL=2000 mg/kg/day (salivation, alopecia, lethargy, flaccidity, 8% mortality); Fetotoxic NOEL=500 mg/kg/day; LEL=2000 mg/kg/day (slight decreased in fetal weight and reduced ossification of skull bones and unossified hyoids, sternbrae and metacarpals); core grade guideline (American Cyanamid, 1983)

Data Gap(s): None

Other Data Reviewed

- 1) 18-Month Oncogenic - mice: Systemic NOEL=150 mg/kg/day; LEL=600 mg/kg/day (decreased body weight gain in females); core grade guideline (American Cyanamid, 1985c)

I.A.5. Confidence in the Oral RfD

Study — High
Database — High
RfD — High

The principal study appears to be of good quality and is given a high confidence rating. Additional studies are of good quality; 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

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 Imazaquin 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)

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Not available at this time.

II. Carcinogenicity Assessment for Lifetime Exposure

Substance Name — Imazaquin

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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 — Imazaquin
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VI.A. Oral RfD References

American Cyanamid Company. 1983. MRID No. 00131552. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

American Cyanamid Company. 1984a. MRID No. 00138972. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

American Cyanamid Company. 1984b. MRID No. 00147011. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

American Cyanamid Company. 1985a. MRID No. 00146205. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

American Cyanamid Company. 1985b. MRID No. 00147016. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

American Cyanamid Company. 1985c. MRID No. 00146206. 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 — Imazaquin

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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 — Imazaquin

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Last Revised — 01/31/1987

- 81335-37-7
- AC 252214
- Imazaquin
- Scepter