

Propazine; CASRN 139-40-2

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 Propazine

File First On-Line 03/31/1987

Category (section)	Assessment Available?	Last Revised
Oral RfD (I.A.)	yes	08/28/1987
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 — Propazine

CASRN — 139-40-2

Last Revised — 08/28/1987

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
Decrease in body weight	NOEL: 100 ppm (diet) (5 mg/kg/day)	300	1	2E-2 mg/kg/day
2-Year Rat Feeding Study	LEL: 1000 ppm (diet) (50 mg/kg/day)			
Ciba-Geigy, 1980a				

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

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

Ciba-Geigy Corporation. 1980a. MRID No. 00041408, 00076955, 00087893. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Two hundred and sixty males and 260 female CD rats were selected randomly and given 0, 3, 100 or 1000 ppm of propazine in their diets for 2 years. Seventy animals of each sex were placed in the control and high dose group. Sixty animals of each sex were placed in the low and mid-dose groups. At 1000 ppm there was a significant decrease in body weight in both sexes. There was a significant increase in mammary tumors in females at 1000 ppm. The NOEL for systemic effects was 100 ppm (5 mg/kg/day).

An RfD based on the subchronic dog NOEL of 5 mg/kg/day and a 1000 UF, to account for inter- and intraspecies differences and a subchronic-to-chronic extrapolation, would yield a value similar to the RfD.

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

UF — An uncertainty factor of 100 is used to account for the inter- and intraspecies differences. An additional UF is used to account for the fact that the database on chronic toxicity lacks an adequate second mammalian bioassay (that is, a chronic feeding study in the dog may yield a more sensitive toxicological endpoint). However, since the 90-day studies in rats and dogs do not show an order of magnitude species difference, an additional 3-fold UF is considered appropriate.

MF — None

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

Data Considered for Establishing the RfD:

- 1) 2-Year Feeding (oncogenic) - Rat: Principal study - see previous description; core grade minimum
- 2) 3-Generation Reproduction - Rat: NOEL=5 mg/kg/day; LEL=50 mg/kg/day (reduced mean pup body weight); core grade minimum (Ciba-Geigy, 1979)
- 3) Teratology - Rat: Fetotoxic NOEL=100 mg/kg/day; Fetotoxic LEL=300 mg/kg/day; Maternal Toxic NOEL=100 mg/kg/day; Maternal Toxic LEL=300 mg/kg/day; core grade supplementary (Ciba-Geigy, 1976)
- 4) 90-Day Feeding - Dog: NOEL=200 ppm (5 mg/kg/day); LEL=1000 ppm (HDT) (25 mg/kg/day) (decreased body weight); no core grade (Ciba-Geigy, 1967)

Other Data Reviewed:

- 1) 2-Year Feeding (oncogenic) - Mouse: Systemic NOEL=15 mg/kg/day; Systemic LEL=450 mg/kg/day; (increased focal myocardial fibrosis and focal myocardial degeneration); core grade minimum (Ciba-Geigy, 1980b)

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

I.A.5. Confidence in the Oral RfD

Study — Medium
Database — Medium
RfD — Medium

The critical study appears to be of fair quality and is given a medium confidence rating. Additional studies are supportive, but because there are data gaps, the database 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 — 08/19/1986, 09/29/1986, 05/20/1987

Verification Date — 05/20/1987

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 Propazine conducted in November 2001 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).

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

Substance Name — Propazine
CASRN — 139-40-2

Not available at this time.

II. Carcinogenicity Assessment for Lifetime Exposure

Substance Name — Propazine
CASRN — 139-40-2

Not available at this time.

III. [reserved]

IV. [reserved]

V. [reserved]

VI. Bibliography

Substance Name — Propazine
CASRN — 139-40-2

VI.A. Oral RfD References

Ciba-Geigy Corporation. 1980a. MRID No. 00041408, 00076955, 00087893. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Ciba-Geigy Corporation. 1979. MRID No. 00041409. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Ciba-Geigy Corporation. 1976. MRID No. 00087879. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Ciba-Geigy Corporation. 1967. MRID No. 0011680. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

Ciba-Geigy Corporation. 1980b. MRID No. 00044335. Available from EPA. Write to FOI, EPA, Washington, DC 20460.

VI.B. Inhalation RfD References

None

VI.C. Carcinogenicity Assessment References

None

VII. Revision History

Substance Name — Propazine

CASRN — 139-40-2

Date	Section	Description
08/28/1987	I.A.	UF reevaluated - RfD changed
12/03/2002	I.A.6.	Screening-Level Literature Review Findings message has been added.

VIII. Synonyms

Substance Name — Propazine

CASRN — 139-40-2

Last Revised — 03/31/1987

- 139-40-2
- 2,4-BIS(ISOPROPYLAMINO)-6-CHLORO-s-TRIAZINE
- 2,4-BIS(PROPYLAMINO)-6-CHLOR-1,3,5-TRIAZIN
- 2-CHLORO-4,6-BIS(ISOPROPYLAMINO)-s-TRIAZINE
- 6-CHLORO-N,N'-BIS(1-METHYLETHYL)-1,3,5-TRIAZINE-2,4-DIAMINE
- G-30028
- GEIGY 30,028
- GESAMIL
- MILOGARD
- PLANTULIN
- PRIMATOL P
- PROPASIN

- PROPAZIN
- Propazine
- PROZINEX
- s-TRIAZINE, 2-CHLORO-4,6-BIS(ISOPROPYLAMINO)-
- 1,3,5-TRIAZINE-2,4-DIAMINE, 6-CHLORO-N,N'-BIS(1-METHYLETHYL)-