

## Baygon; CASRN 114-26-1

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 Baygon

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 — Baygon

CASRN — 114-26-1

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
Mild cholinergic symptoms and RBC ChE inhibition	NOEL: None LEL: 0.36 mg/kg/day	100	1	4E-3 mg/kg/day
Single-Dose Human Study				
Vandkar et al., 1971				

\*Conversion Factors: none

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

Vandekar, M., R. Plestina and K. Wilhelm. 1971. Toxicity of carbamates for mammals. Bull. World. Health. Org. 44: 241-249.

An unspecified number of human volunteers received a single oral dose of 0.36 mg/kg baygon. This single dose caused mild cholinergic signs and 43% inhibition of red blood cell cholinesterase in 10 minutes.

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

UF — An uncertainty factor of 100 was used to account for the differences of sensitivity in the human population and to account for the fact that effects were observed at 0.36 mg/kg/day.

MF — None

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

##### Data Considered for Establishing the RfD:

- 1) Oral Dosages - human: Principal study - see previous description; core grade supplementary
- 2) 2-Year Feeding (oncogenic) - rat: Systemic NOEL=200 ppm (10 mg/kg/day); Systemic LEL=1000 ppm (50 mg/kg/day) (weight depression, increased incidence of urothelial hyperplasia of the bladder, slight increase in neuropathy); core grade minimum (Mobay Chemical, 1984a)
- 3) 12-Month Feeding - dog: NOEL=200 ppm (5 mg/kg/day); LEL=600 ppm (15 mg/kg/day) (increased mean liver weight and N-demethylase activity, increased plasma cholesterol); ChE NOEL=none; ChE LEL=200 ppm; core grade supplementary (Mobay Chemical, 1984b)
- 4) 3-Generation Reproduction - rat: Reproductive NOEL=250 ppm (12.5 mg/kg/day); Reproductive LEL=750 ppm (37.5 mg/kg/day) (decreased pup number); no core grade (Mobay Chemical, 1968)
- 5) Teratology - rat: Maternal NOEL=1000 ppm (50 mg/kg/day); Maternal LEL=3000 ppm (150 mg/kg/day) (body weight gain and food consumption decreased); Fetotoxic NOEL=1000 ppm (50 mg/kg/day); Fetotoxic LEL=3000 ppm (150 mg/kg/day) (average weight of fetus significantly lower); Teratogenic NOEL=10,000 ppm (500 mg/kg/day) (HDT); Teratogenic LEL=none; no core grade (Chemagro Corp., 1971)
- 6) Teratology - rabbit: Maternal NOEL=10 mg/kg/day (HDT); Maternal LEL=none; Fetotoxic NOEL=10 mg/kg/day (HDT); Fetotoxic LEL=none; Teratogenic NOEL=10 mg/kg/day (HDT); Teratogenic LEL=none; core grade minimum (Mobay Chemical, 1981a)

##### Other Data Reviewed:

- 1) 2-Year Feeding (oncogenic) - mice: Systemic NOEL=700 ppm (105 mg/kg/day); Systemic LEL=2000 ppm (300 mg/kg/day); core grade minimum (Mobay Chemical, 1981b)
- 2) 2-Year Feeding (oncogenic) - rat: Systemic NOEL=250 ppm (12.5 mg/kg/day); Systemic LEL=750 ppm (increased liver weight), ChE not established (because of lack of method); core grade supplementary for oncogenicity (pathology reported for only 5 rats/sex/group) (Chemagro Corp., 1976)

3) 2-Year Feeding - dog: NOEL=250 ppm (6.25 mg/kg/day); LEL=750 ppm (18.75 mg/kg/day) (decreased body weight; food consumption; increased liver weight); ChE NOEL not established because of lack of method; no core grade (Chemagro Corp., 1968)

Data Gap(s): Short-term dog study measuring ChE depression

#### **I.A.5. Confidence in the Oral RfD**

Study — Low  
Database — Medium  
RfD — Medium

The critical study appears to be of poor quality and is given a low confidence rating. Additional studies are of adequate quality and, 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 — 12/09/1986, 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 Baygon 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](mailto: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](mailto:hotline.iris@epa.gov) (internet address).

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

Substance Name — Baygon  
CASRN — 114-26-1

Not available at this time.

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## **II. Carcinogenicity Assessment for Lifetime Exposure**

Substance Name — Baygon  
CASRN — 114-26-1

Not available at this time.

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**III. [reserved]**

**IV. [reserved]**

**V. [reserved]**

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## **VI. Bibliography**

Substance Name — Baygon  
CASRN — 114-26-1

### **VI.A. Oral RfD References**

Chemagro Corporation. 1968. MRID No. 00035423. Available from EPA. Write to FOI, EPA, Washington DC 20460.

Chemagro Corporation. 1971. MRID No. 00045094. Available from EPA. Write to FOI, EPA, Washington DC 20460.

Chemagro Corporation. 1976. MRID No. 00035425, 00070673. Available from EPA. Write to FOI, EPA, Washington DC 20460.

Mobay Chemical Company. 1968. MRID No. 00052277, 00055142. Available from EPA. Write

to FOI, EPA, Washington DC 20460.

Mobay Chemical Company. 1981a. MRID No. 00100547. Available from EPA. Write to FOI, EPA, Washington DC 20460.

Mobay Chemical Company. 1981b. MRID No. 00100546, 00138815. Available from EPA. Write to FOI, EPA, Washington DC 20460.

Mobay Chemical Company. 1984a. MRID No. 0014275. Available from EPA. Write to FOI, EPA, Washington DC 20460.

Mobay Chemical Company. 1984b. MRID No. 00149040. Available from EPA. Write to FOI, EPA, Washington DC 20460.

Vandekar, M., R. Plestina and K. Wilhelm. 1971. Toxicity of carbamates for mammals. Bull. World. Health. Org. 44: 241-249.

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#### **VI.B. Inhalation RfC References**

None

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#### **VI.C. Carcinogenicity Assessment References**

None

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## VII. Revision History

Substance Name — Baygon

CASRN — 114-26-1

Date	Section	Description
10/28/2003	I.A.6.	Screening-Level Literature Review Findings message has been added.

## VIII. Synonyms

Substance Name — Baygon

CASRN — 114-26-1

Last Revised — 09/30/1987

- 114-26-1
- APROCARB
- ARPROCARB
- BAY 39007
- BAY 9010
- BAYER 39007
- Baygon
- BIFEX
- BLATTANEX
- BOYGON
- BRYGOU
- CARBAMIC ACID, METHYL-, 2-(1-METHYLETHOXY)PHENYL ESTER
- CHEMAGRO 9010
- ENT 25,671
- HYDROXY-N,N-DIMETHYLCROTONAMIDE
- o-IMPC
- INVISI-GARD
- ISOCARB
- 2-ISOPROPOXYPHENYL METHYLCARBAMATE

- o-ISOPROPOXYPHENYL METHYLCARBAMATE
- 2-ISOPROPOXYPHENYL-N-METHYLCARBAMAT
- 2-ISOPROPOXYPHENYL N-METHYLCARBAMATE
- o-ISOPROPOXYPHENYL N-METHYLCARBAMATE
- 2-(1-METHYLETHOXY)PHENOL METHYLCARBAMATE
- N-METHYL-2-ISOPROPOXYPHENYLCARBAMATE
- OMS-33
- PHC
- PHENOL, o-ISOPROPOXY-, METHYLCARBAMATE
- PROPOKSURU
- PROPOTOX M
- PROPOXUR
- PROPOXURE
- PROPYON
- SENDRAN
- SUNCIDE
- TUGON FLIEGENKUGEL
- UNDEN