3/14/86 G. Chiali W. Brown J.W. Hauswirth S. Saunders D. Bowen

REFERENCE DOSES (RFDs) FOR ORAL EXPOSURE

Chemical: Bolstar

CAS #: 35400-43-2
Caswell #: 453AA

Carcinogenicity: Add

Systemic Toxicity: See below.

Endpoint	Experimental Doses	UF	MF	RfD
Chemargo Tox. Lab gro	0.25 mg/kg (ChE NOEL)	10	-	0.025 mg/kg/day
2-Year Dog Feeding Study	2.5 mg/kg (ChE LEL)			
plasma, brain and RBC cholinesterase inhibition				

Endpoint and Experimental Doses:

Chemagro Toxicology Laboratory
2-Year Dog Feeding Study
Report No. 63100; Feb. 27, 1978

Beagle dogs were fed Bolstar for two years at dose levels of 0, 10, 100, and 150 ppm. No deleterious effects were observed except for cholinesterase inhibition. At 100 and 150 ppm, plasma, RBC and brain cholinesterase were inhibited. The ChE NOEL for the dog is 10 ppm (0.25 mg/kg) with no somatic effects at 150 ppm.

Preparation Date: 3/12/86

11501

REFERENCE DOSES (RFDs) FOR ORAL EXPOSURE

..emical: Bolstar

CAS #: 35400-43-2
Caswell #: 453AA

Carcinogenicity: No evidence of carcinogenicity in two adequate animal (rat and mice) tests.

Systemic Toxicity: See below.

Preparation Date: 3/12/86

Endpoint	Experimental Doses	UF	MF	RfD
Chemagro Tox. Lab (1978) 2-Year Dog Feeding Study plasma, brain and RBC cholinesterase inhibition	0.25 mg/kg ChE NOEL 2.5 mg/kg ChE LEL	100	—	0.003 mg/kg/day

Endpoint and Experimental Doses:

Chemagro Toxicology Laboratory
2-Year Dog Feeding Study
Report No. 63100; Feb. 27, 1978

Beagle dogs were fed Bolstar for two years at dose levels of 0, 10, 100, and 150 ppm. No deleterious effects were observed except for cholinesterase inhibition. At 100 and 150 ppm, plasma, RBC and brain cholinesterase were inhibited. The ChE NOEL for the dog is 10 ppm (0.25 mg/kg) with no somatic effects at 150 ppm.

Uncertainty Factors (UFs):

An uncertainty factor of 100 has been used to account for the inter- and intraspecies difference in the extrapolation from the dog to the man.

Modifying Factors (MFs):

None

Additional Comments:

Data Considered for Establishing the RfD

1) 2-Year Feeding - Dog ChE NOEL = 0.25 mg/kg, ChE LEL = 2.5 mg/kg (plasma, RBC and brain ChE inhibition); Core grade minimum)

2) 2-Year Feeding/Oncogenic - Rat ChE NOEL = 0.3 mg/kg, ChE LEL = 3 mg/kg (plasma and RBC ChE inhibition); Core grade minimum

3) 3-Generation Reproduction - Rat Reproduction NOEL = 6 mg/kg (HDT); Core grade minimum

Teratology - Rat Fetotoxic NOEL = 3 mg/kg, Fetotoxic LEL = 10 mg/kg (increased unossified sternebrae and decreased body weight); Core grade minimum

5) Teratology - Rabbit Teratogenic NOEL > 30 mg/kg (HDT); Systemic NOEL = 3 mg/kg, Systemic LEL = 10 mg/kg (salivation, lethargy, anorexia, diarrhea); Core grade minimum

Data Gap(s)

None

Other Data Considered

1) 22-Month Feeding/Oncogenic - Mice ChE NOEL = 0.375 mg/kg, ChE LEL = 3.75 mg/kg (plasma and RBC ChE inhibition); Core grade minimum

Confidence in the RfD:

Study: Medium Data Base: Medium RfD: High

The critical study appears to be of fair quality and is given a medium confidence rating. Additional studies are very supportive, in particular the 2-year rat feeding study in which the ChE NOEL is 0.3 mg/kg. Therefore, the RfD is given a high confidence rating.

Documentation of RfD and Review:

Registration Files

Agency RfD Review:

First Review: 4/08/86
Second Review: 11/26/86
Verification Date: 11/26/86

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