

US EPA ARCHIVE DOCUMENT

11-27-85 PB-770
TMC-4754

B. Burson

Tox. Chem. No. 357-Betaseran (CFR #.180.241)

Acceptable Daily Intake -
EPA/ OPP / HED / Tox.

Material : Technical

Doc. No. for Updated ADI

~~ADI or PADI~~ PLD 0.0066mg/kg

004754

Safety Factor = 300

Dated :

Updated : 10/23/85

Section W. Burson

Study : 90 Day Feeding - dog (no core grade)

NOEL : CHE NOEL < 2mg/kg (LDT)

OK'ed 11/27/85

Lab. : Woodward Res. Corp.

D. Bowen

C. Frick

S. Saunders

W. Burson

W. Burson

Study No. :

Study Date : 11/6/67

Doc. No. : 000734 and 000738

Comments:

An extensive data gap exists for Betaseran; no chronic, teratology or reproduction studies were performed utilizing Betaseran. The 90-day dog feeding study was selected in establishing a PLD because it yielded the most sensitive value. As of 11/6/85, there was no ADI "one-liner" for Betaseran.

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357- Betasam

004754

Data Considered for Establishing an ADI, a PADI or PLD

1. 90-Day Feeding - dog (CHE NOEL \leq 2 mg/kg; no core grade)
2. 90-Day Feeding - rat (CHE NOEL \leq 5 mg/kg; no core grade)
3. 28-Day Feeding - rat (NOEL = 7.5 mg/kg; supplementary)
4. 90-Day Feeding - dog (NOEL = 12.5 mg/kg; no core grade)
5. 90-Day Feeding - rat (NOEL = 25 mg/kg; no core grade)

Data Gap(s)

1. Chronic Feeding - dog
2. Chronic Feeding - rat
3. Reproduction - rat
4. Teratology - rat
5. Teratology - rabbit

Other Data Considered

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Betason

PLD from a 90-Day Dog Feeding Study

A review of the tox. Branch files indicates that an extensive data gap exists for Betason. The data gap consists of a chronic dog and rat feeding study, rat and rabbit teratology study, and a rat reproduction study. The 90-day dog feeding study was selected in establishing a PLD because it yielded the most sensitive value (CHE NOEL $< 2 \text{ mg/kg}$ and systemic NOEL = 12.5 mg/kg ; no core grade).

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file last updated 1/14/66

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ACCEPTABLE DAILY INTAKE DATA

LD ₅₀	NOEL	S.F.	PLD mg/kg/day	ADI mg/day (60kg)
2.00	30.00	300	0.0007	0.4000

Published Tolerances

Crop	Tolerance	Food Factor	mg/day (1.5kg)
Carrots (24)	0.100	0.40	0.00072
Cottonseed (oil) (41)	0.100	0.15	0.00022
Cucurbits (33)	0.100	2.04	0.00426
Fruiting vegetables (35)	0.100	2.09	0.00449
Leafy vegetables (36)	0.100	2.70	0.00513
Onion (dry bulb) (100)	0.100	0.72	0.00137

ADI 0.4000 mg/day (60kg) PLD 0.0007 mg/kg/day (2.2kg) 3.75

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Study No. 357 - BETASAN

EPA Accession No.

TOX Category

CORE Grade/ Doc. No.

Results:

LD50, LC50, PIS, NOEL, LEL

Material

Study/Lab/Study #/Date

Supplementary
000739

NOEL = 150 ppm (lowest level tested)
LEL = 300 ppm (decreased body weight gain (High level 525 ppm): elevated thyroid weights, decreased body weight gain
Levels tested = 150, 300, 525 ppm

[BENSULFIDE TECH-
NICAL (93%)

28-Day feeding - rat;
Stauffer Chemical Co.;
#370;
10/1/63

000735

NOEL = 0.25 ml/kg/day
LEL = 0.5 ml/kg/day (highest level tested)
Erythrocyte cholinesterase inhibition (25 - 60%) edema, erythema at application site pyelonephritis
Levels tested = 0.1, 0.25, 0.5 ml/kg/day

[PREFAR 4E®]
Bensulfide
4 lbs/gal. E.C.

20-Day dermal - rabbit;
Woodward Res. Corp.;
6/3/63

000735
000740

LD50 > 5 g/kg (highest level tested)
Weight loss, decrease in hemoglobin and hematocrit, liver congestion, pyelonephritis (not dose-related) fluctuations in erythrocyte cholinesterase.
Levels tested = 1.0, 2.5, 5.0 mg/kg/day

[PREFAR 10G®]
Bensulfide
4 lbs/gal. E.C.

21-Day dermal LD50 -
rabbit;
Woodward Res. Corp.;
10/28/63

000734
000738

NOEL (systemic) > 15 mg/kg/day (highest level tested)
ChE NOEL < 5 mg/kg/day (LDT) (inhibition of plasma cholinesterase activity)
Levels tested = 5, 15 mg/kg/day

[PREFAR®] Ben-
sulfide

90-Day feeding - rat;
Woodward Res. Corp.;
11/6/67

000734
000738

NOEL (systemic) > 12.5 mg/kg/day
ChE NOEL < 2 mg/kg/day (LDT) (inhibition of plasma cholinesterase activity)
Levels tested = 2, 4, 12.5 mg.kg/day

[PREFAR®] Ben-
sulfide

90-Day feeding - dog;
Woodward Res. Corp.;
11/6/67

004754

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Tox/Chem No. 357 - BETASAN

File Last Updated 8/24/84

EPA

TOX Category

Accession No.

CORE Grade/
Doc. No.

Study/Lab/Study #/Date Material

LD50, LC50, PIS, NOEL, LEL

Results:

5-Week feeding - quail; Bensulfide Techni-
Stanford Res. Institute; nical 97%
#8-4622;
10/63

NOEL = 10 ppm (lowest level tested)
LEL = 100 ppm (cholinesterase
inhibition
(Decreased reproduction [but not
egg production] observed at high-
est level (1000 ppm))
Levels tested = 10, 100, 1000 ppm

000739

28-Day feeding - rat;
Woodard Res. Corp.;
11/11/63

NOEL < 35 mg/kg/day (LDT)
(Slight histopathologic liver
changes in females.)
(At highest level [280 mg/kg/day]
decreased body wt., food consump-
tion, elevated liver weights,
plasma and brain cholinesterase
inhibition)
Levels tested = 35, 70, 140, 280
mg/kg/day.

000735

90-Day feeding - rat;
Woodard Res. Corp.;
11/29/65

NOEL = 25 mg/kg/day
LEL = 50 mg/kg/day (HDT) (heptic
and renal changes.)
Levels tested = 12.5, 25, 50 mg/kg/
day

000735
000737

90-Day feeding - dog;
Woodard Res. Corp.;
11/26/65

NOEL = 12.5 mg/kg/day (lowest
level tested)
LEL = 25 mg/kg/day
Moderate degenerative liver cell
damage (High level (50 mg/kg/day);
reduced body weight gain, elevated
SAP, SGOT and SGPT).
Levels tested = 12.5, 25, 50 mg/kg/
day

000735
000737

004754

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Tox Chem No. 357 - Betasan File Last Updated _____ Current Date _____
 Study/Lab/Study #/Date _____ EPA Accession No. _____ TOX Category _____ CORE Grade/Doc. No. _____

Acceptable Daily Intake-
 EPA/ OPP/ HED TOX.

TECH

PADI= 0.0066 mg/kg
 Safety Factor = 300

Dated:
 Updated: 10/23/85
 Study: 90 Day Feeding - dog (no
 Core grade)
 NOEL: CHE NOEL < 2 mg/kg (LDT)
 Lab.: Woodward Res. Corp.
 Study No.:
 Study Date: 11/6/67
 Doc.No.: 000734 and 000738

Comments:
 An extensive data gap exists for
 Betasan; no chronic, teratology or
 reproduction studies were performed
 utilizing Betasan. The 90-day dog
 feeding study was selected in estab-
 lishing a PLD because it yielded the
 most sensitive value. As of 11/6/85,
 there was no ADI "one-liner" for
 Betasan.

004754

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Tox Chem No. 357 Zetasan

File last Updated

Current Date

EPA

Accession

No.

Material

Study/Lab/Study #/Date

Results:

LD50, LC50, PIS, NOEL, LEL

TOX

Category

CORE Grade/

Doc. No.

Data considered for establishing an

ADI, a PADI or PLD

- 1. 90-Day Feeding - dog (ChE NOEL < 2 mg/kg; no Core grade)
- 2. 90-Day Feeding - rat (ChE NOEL < 5 mg/kg; no Core grade)
- 3. 28-Day Feeding - rat (NOEL=7.5 mg/kg; supplementary)
- 4. 90-Day Feeding - dog (NOEL=12.5 mg/kg; no Core grade)
- 5. 90-Day Feeding - rat (NOEL=25 mg/kg; no Core grade)

Data Gaps

- 1. Chronic Feeding - dog
- 2. Chronic Feeding - rat
- 3. Reproduction - rat
- 4. Teratology - rat
- 5. Teratology - rabbit

Other data considered

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