SHAUGHNESSEY NO.

REVIEW NO.

EEB BRANCH REVIEW

DATE: IN 6-9-82 OUT 7-6-82

FILE OR REG. NO. 264-336

PETITION OR EXP. PERMIT NO.

DATE OF SUBMISSION 5-20-82

DATE RECEIVED BY HED 6-8-82

RD REQUESTED COMPLETION DATE 8-8-82

EEB ESTIMATED COMPLETION DATE 8-1-82

RD ACTION CODE/TYPE OF REVIEW 601/Resubmission - Reregistration

TYPE PRODUCT(S): I, D, H, F, N, R, S Plant Growth Regulator

DATA ACCESSION NO(S).

PRODUCT MANAGER NO. R. Taylor (25)

PRODUCT NAME(S) Tre-Hold Sprout Inhibitor A-112

COMPANY NAME Union Carbide Agricultural Products

SUBMISSION PURPOSE Submission of data in support of reregistration

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.

1/4

2003838

Pesticide Name Napthaleneacetic Acid

100 Purpose of Submission

Submission of chemical analyses regarding confirmation of actual NAA concentration in test solutions and identification of precipitates in order to upgrade previous submitted trout, bluegill and daphnia studies (see previous EEB review by L. Touart, 1/6/82).

101-104 1) Refer to EEB file and NAA Registration Standard.

2) Helfant, L. J.(1982) Union Carbide project Report; Protocol Evaluation, NAA Solubility in Aquatic Testing (860F60).

107 Conclusions

In order to repair these studies with the deficiency of unknown precipitate in the test media, the chemical analyses were conducted. The actual concentration was measured and the white precipitate identified. The LC50 values were also recalculated based on new findings. Therefore, these studies are scientifically sound and fulfill the registration guidelines requirements.

Richard Lee 7/7/82
Richard Lee, Entomologist, Section 4

Henry T. Craven 7/7/82
Henry T. Craven, Head, Section 4

Clayton Bushong 7/9/82
Clayton Bushong, Chief, EEB

DATA EVALUATION RECORD ADDENDUM

1. Chemical: Napthaleneacetic Acid

2. Formulation: Technical (98% a.i.)

3. Citation: 1) Refer to previous EEB review by L. Touart (1/6/82).

2) Helfant, L. J. (1982) Union Carbide project Report; Protocol Evaluation, NAA Solubility in Aquatic Testing (860F60)

4. Reviewed by: Richard Lee
Entomologist
EEB/HED

5. Data Reviewed: 7/2/82

6. Discussion/Conclusion

The chemical analyses were conducted to upgrade these studies with the deficiency of unknown precipitate in the test media. The test solutions were prepared in the analytical laboratory as performed in the test protocol. Water of comparable hardness and pH was utilized as well as NAA from the same source of manifacture and comparable purity. White precipitate was observed floating on the top and precipitated on the bottom after dilution of DMF stock solution. This particulate was confirmed to be technical NAA by means of GLC. The solubility of NAA after filtration was further quantitated by means of titrating acid equivalent with 0.01 N NaOH (see table 1). The result shows greater NAA solubilities at the more dilute concentrations with decreasing solubilities as more NAA is introduced into the water. The average recovery rate was found to be 47%. Using a 50% solubility factor for simplicity, the various LC50s are recalculated and are shown in the table 2. Therefore, these studies are scientifically sound and fulfill the registration guideline requirements.

Table 1. Results of NAA solubility test

Stock Solution: 10.1 g NAA/50 ml DMF (ie 200 mg NAA/ml DMF)

Water Hardness: 46 ppm

Temperature: 22°C

Aliquot/L.H_2O	measured (ppm)	nominal (ppm)	Recovery
0.4 ml	50	80	62.5
0.8 ml	68	160	42.5
1.2 ml	97	240	40.4
1.6 ml	140	320	43.8
2.0 ml	158	400	39.5
2.4 ml	181	480	37.7

Table 2. Recalculated LC50 values

SPECIES	LC50 (hr), mg/liter			
	24	48	72	96
Rainbow trout	28	28	28	28*
Bluegill sunfish	50	41	41	41*
Daphnia	225	180**	--	--

* slightly toxic
** practically non-toxic